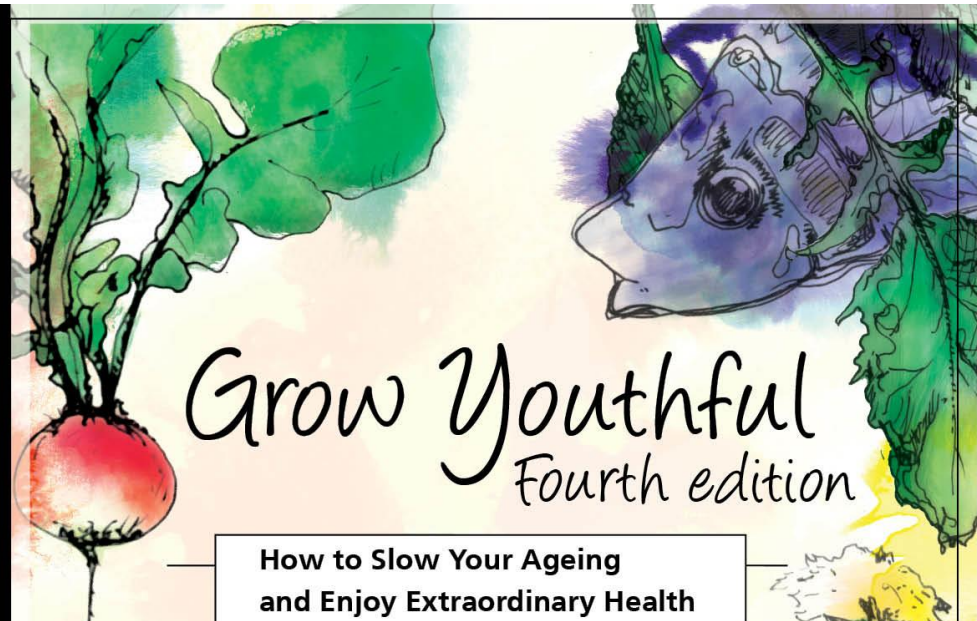




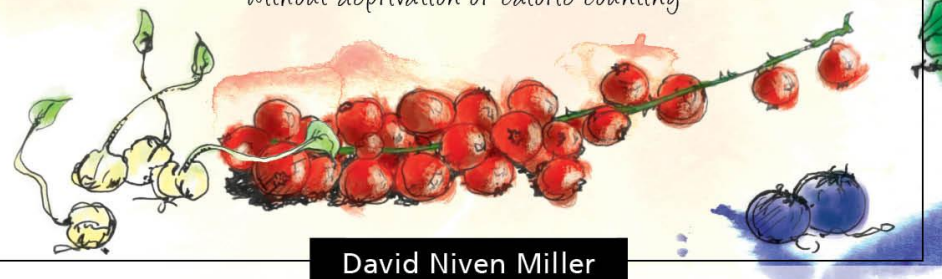
Grow Youthful

Fourth edition

**How to Slow Your Ageing
and Enjoy Extraordinary Health**



*Simple, doable changes to your diet and life
that will absolutely transform your health
without deprivation or calorie counting*



David Niven Miller

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Grow Youthful

How to Slow Your Ageing and Enjoy Extraordinary Health

David Niven Miller

www.growyouthful.com

The information and suggestions in *Grow Youthful* are intended for educational purposes only. The author's intention is to encourage the reader to think, and to question current medical practices and advice, and other aspects of our modern way of living.

This book is not intended to replace medical advice or treatment from a doctor or health professional (preferably one knowledgeable about nutritional and natural methods of healing). It does not offer medical advice or diagnosis, or prescribe the use or discontinuance of any medication, directly or indirectly, without the knowledge and cooperation of the reader's doctor or health professional. Sick people, or those with chronic or persistent symptoms, should seek the advice of a doctor or health professional, and only use the information and suggestions herein under their supervision. The author, publisher, distributor, and any of their agents or employees disclaim all responsibility or liability in connection with the accuracy of and use of the information and suggestions herein.

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TOP HEALTH TRANSFORMATION TIPS

Vital good health for all of a very long life requires:

- 1. A low and steady level of blood insulin for nearly all of each day.**
- 2. Avoiding toxins, most of which come from our foods. The most toxic foods are grains and legumes, oils made from seeds and legumes, and sugar.**
- 3. Getting sufficient nutrients, both from our food and from our gut biome.**
- 4. Healing pathogenic infections.**

To achieve the above four objectives:

- Eat all your carbohydrates each day in just one of your meals.
- Eliminate grains (especially wheat) and legumes, and everything made from them. Avoid all products made with the flour and polyunsaturated vegetable oils of grains and legumes.
- Eat plenty of all kinds of vegetables, including starchy vegetables.
- Don't just eat selected muscle from an animal, use the entire animal including the organs, carcass with bones and connective tissue to make stock or soup.
- Eliminate sugar, and all sweetened foods and drinks. Avoid fast-digesting carbohydrates like breads, cakes, snack bars, biscuits/cookies/crackers, sweets, most dried fruits, and breakfast cereals.
- Avoid factory-made processed foods. Eat traditional foods, the way they were made centuries ago. Use foods that are fresh, in-season, organic or free-range.
- Thrive on saturated fats. Get two thirds of your calories from fats, mostly butter, animal fats and coconut oil.

- Eat nutrient-dense foods. Experiment with super foods and fermented foods. Few supplements are necessary or even beneficial, but consider boron and iodine.
- Get sufficient acetic and butyric acids. Use apple cider vinegar, strong kombucha or a sour lemon daily. Eat starchy vegetables that feed butyrate-producing bacteria in your colon.
- Earth yourself. Contact with the ground for several hours each day is health-essential.

To create a rich, satisfying and mostly low-stress life:

- Be grateful for your life and everything you have. It can disappear at any moment.
- Conscientious people live longer. Those who are organised, and have self-discipline and integrity are also significantly healthier.
- Do whatever you need to do to feel a sense of worth in life, that you have something to contribute to others. Be generous.
- Take total responsibility for every aspect of your life – what you need to do to enjoy the life you really want.
- Friends – enjoy them and spend time with them. Be generous with and thankful for your friends. Choose friends who are as positive as you are.
- Banish the values and ageing expectations of society.
- Keep to a regular daily schedule – 7 days a week. Regular bedtime, rising time and mealtimes.
- Meditate daily. Experiment with different methods, and discover what suits you.
- Walk virtually every day for at least thirty minutes. Walk everywhere you can. Build up to enjoying more vigorous exercise.
- Get off drugs and medications. Usually a natural food or herb is more effective, longer lasting, and has no side effects. Of course, do this with the cooperation of your doctor – if you can find such an enlightened practitioner.



INTRODUCTION

Make time for your health, and you will gain many additional youthful years. If you have no time to spare, your ill health will take that time anyway.

AGE ILLUSION

Our society programs us to believe that sickness and degenerative ageing are inevitable as the years go by. We are conditioned to look and behave according to our age. Listen to a news broadcast on the radio or TV. When they describe an accident, court case or some incident, there seems to be a fixation on everyone's age. "A twenty six year old motorcyclist was killed...", "A forty seven year old man was convicted in court of...", and "A five year old girl was lost on a train...". They constantly drum the importance of age and age-appropriate behaviour into us.

"Only the young are attractive, strong, vital, healthy, sensual, sexual, intelligent, creative and capable," say messages from the media that pound us day after day. Advertisements for fast food, soft drinks, cosmetics, motor cars, cleaning products and electronics mostly use models in their teens or early 20's. The health industry, insurance companies, pension funds, the retirement industry and many other institutions have a large financial stake in this myth.

The flip side of this youth fixation is that we consider most of those who reach their 70th birthday to be a burden. We apply a throwaway culture and use by date to our elderly as well as the goods we produce. The media tells us that old people consume housing, food and other goods and services, and provide little or nothing in return.

Medical costs are spiralling, particularly for those in the last years of their life. Western families care for fewer and fewer of their elderly because today's families are smaller, fragmenting, blending, and are unwilling or unable to support them.

Although our life expectancy is increasing,^{97, 98, 100, 101} our health in our last few decades has not.⁹⁶ Old age is not much fun if you are ill and tired all the time, slow, confused and worn out. Who wants a feeble, bent, sick, painful, ugly old body with fading senses? Who wants to face loneliness, isolation, physical and sexual deprivation, poverty, loss of choices and being dependent on family, friends and the government?

However, this degeneration is not inevitable. I will show you how ageing and deterioration is actually a choice that most people make.

Many cultures, particularly traditional cultures, have handled ageing better than we do in the West today. Their oldest people lived with their families or tribes, and still contributed valuable work and knowledge. They were usually respected, healthy and active.

For example, longevity has always been a priority for traditional Chinese people. Virtually all the Taoist masters lived to well over one hundred years. Many Taoist texts^{3,5} describe sages with life spans that seem unbelievable in Western society.

Several other cultures around the world have traditionally enjoyed long lives. The Hunzas, located in northern Pakistan, routinely live for over a century. People from Abkhazia, a mountainous part of southern Russia, Vilcabamba in Southern Ecuador, and Bama, 200 km northwest of Nanning in Guangxi, China, also have many centenarians. They are isolated from much of modern civilisation and pollution, and spend hours working their rich, dark-soiled fields. All these cultures place great value on longevity and their older citizens are valued and exalted.

The life experience, the maturity, the time and the love that the elderly have to offer us today is a vast and unused resource. As we wake up to their social, economic and spiritual value, this human resource will transform. People living by the principles in *Grow Youthful* will resist ageing and degeneration, and will contribute to society, earning enough to pay the bills and living independent, fulfilling lives. Those who have lived many years will no longer be a burden on society, but will be a major economic, social and political force. These healthy, productive, wise and

experienced long-lived people will contribute to and add to the diversity of our society at every level.

Biologically, old people have been of great value in our evolution. For most living things (plants, insects, animals) the adults have done their job and can die after they have reproduced and their young are growing independently. However, human tribes that had a few old people fared better than those with none. The knowledge and experience of the elderly helped their tribes to survive droughts, floods, plagues, and other calamities that only occur once every few decades. Hence, the genes from these tribes were passed on, whereas the genes from tribes where everyone died relatively young did not survive.⁹⁴

The presence of the growing mass of elderly people will also challenge the notion that time is a limited and scarce resource. They will enjoy more discretionary time because their kids have grown up and left home, the mortgage is paid off, and they are not beholden to an employer or make-or-break business. More importantly, many of them will consciously choose how to spend their time rather than feeling obliged or forced.

Age need not be a barrier to performance. Many people have performed their greatest work in their 70's, 80's and 90's. Fifty year olds have won marathons. Sixty year olds routinely lift heavier weights in the gymnasium than many twenty year olds. Seventy year olds enjoy powerful and creative careers. Some eighty year olds play a decent set of tennis. Ninety year olds can have active and thoroughly enjoyable sex lives. People in extreme old age exercise, play sport, excel in mental and psychological challenges, leading interesting and fulfilling lives. The many decades after you turn 60 can be the most productive, enjoyable, sexual and spiritual part of your life.

In his 90's Michelangelo designed St Peters dome. Verdi at the age of eighty, wrote *Falstaff*. Alexander von Humboldt completed his naturalistic masterpiece *Cosmos* when aged eighty-nine. The late Chinese leader Deng Hsiao-ping wielded power in China at the age of eighty-eight, despite a life-long tobacco habit. Moraji Desai, a former prime minister of India, lived a healthy vibrant life until the age of one hundred.

You can find many examples in our Western culture today – people in their 70's, 80's and 90's who are working, contributing to society, and leading full, active and healthy lives.

WHAT IS AGEING?

Ageing is a general deterioration of your body's function and structure, and your mind, as the years go by. It is a subtle and slow process where you gradually become aware that you no longer have the strength and vitality that you used to have. Your skin has blemishes, wrinkles and sags a little, your hair and nails are thinner and weaker, your digestion is slow and temperamental, and a host of other changes creep through your body.

Ageing is the result of an accumulation of abuse and assaults to both your mind and physical body. We choose to age by accepting these abuses, and fully expect to show sickness and deterioration as the years pass.

There are several ways to measure age. **Calendar** age is the one we usually think of – the number of years that you have been alive. However, if you choose to maintain your youth into your old age, it becomes almost irrelevant.

Your **mental** age depends upon your short and long-term memory, speed of recall, power of analysis, clarity, creativity and ability to learn. It also reflects your attitude to life – whether you are stuck in the past, dogmatic and inflexible, or are open to change, learning and new ideas. It bears little relation to your calendar age.

Your **effective** age reflects your ability to live independently and contribute to others and society.

Your **Biological** age is an average age of most other people with your health, appearance, feelings and energy. It depends upon the total weight of all the positive factors and the total weight of all the negative factors

discussed in *Grow Youthful*. If you take full responsibility for all these factors, it is possible to subtract decades from your biological age.

You can do a fun quiz to estimate your biological age at www.growyouthful.com . It asks around 140 questions, and estimates how much your body has deteriorated compared to most people of your calendar age and sex.

Ayurvedic age. Several ancient traditions such as Taoism and early Ayurvedic medicine measure age by the number of breaths you have taken, or the number of heartbeats you have accumulated. This book shows you how to breathe deeply and efficiently, and more slowly. If you can halve your rate of breathing, you may double your lifespan. If your cardiovascular system is healthy, you will have a slower pulse. A reduction in your pulse rate will give you a proportionate increase in your life.

Biomarkers. Two scientists at Tufts University – William J. Evans and Irwin H. Rosenberg, developed ten tests or markers of ageing in the late 80's.¹⁵ They are measurable, relevant, significant, and most importantly, reversible.

However, one of these markers (cholesterol) is now known to be misleading, with cholesterol being a beneficial agent, as I will show.

This book explains how you can effectively prevent, and even reverse the deterioration of these biomarkers. Your doctor can use these markers to assess your biological age during an examination. You can monitor your progress in reversing your ageing after you have implemented some of the changes I recommend, with a second examination months later.

The ten markers are:

- Lean body (muscle) mass
- Muscle strength
- Basal metabolic rate
- Body fat
- Aerobic capacity

- Blood pressure
- Insulin sensitivity and blood glucose tolerance
- Cholesterol level and HDL/LDL ratio (today we know that this marker is an error)
- Bone density
- Body temperature regulation

YOUR CHOICE

After years of conditioning by society, many people hold a deep belief that old age is a time of weakness, inactivity (retirement), and no longer needing to take risks, grow or learn. They feel that no more great, exciting things are going to happen in their lives – that they are largely finished, and have nothing further to contribute. The widespread acceptance of notions such as middle-aged, past it and over-the-hill is a self-fulfilling belief, actually causing physical and mental degeneration.

Are you expecting to get sick, tired, haggard and feeble as you enter middle and then old age? If you are expecting it to happen, *and especially if you fear it*, then it will happen. *“People grow old and die because they see others grow old and die”*, said the ancient Indian sage, Shankara. Society dictates that we have a death urge.³⁷

Each of us has a choice whether or not to throw in the towel. You can choose to allow your mind and a harmful lifestyle to overwhelm your body’s natural state of health. Through low expectations, ignorance, self-sabotage and apathy you can enter a vicious downward spiral of degenerative diseases. Tiredness and sickness tempt you to give up. A paunch, haggard skin, and not one but several chronic medical complaints are quite normal for a fifty year old on this path of least resistance.

The nature of death and disease has changed. Most Westerners do not face as high a risk of dying in a conflict or war as previous generations.

Our workplaces and living environments are safer, reducing the risk of death or injury from an accident. Sewage and garbage is efficiently disposed of, and drinking water is less likely to be biologically contaminated, reducing the dangers of contagious diseases like smallpox.

Degenerative diseases have replaced infectious diseases as the scourge of our time. The plague of degenerative physical, mental and emotional diseases that we suffer today is avoidable. Even people in their 20's and 30's often have degenerative diseases that were rare a century ago. Children are ageing rapidly, with childhood obesity, diabetes and atherosclerosis now quite common rather than being a medical rarity.

The causes of the degenerative diseases of the 21st century are:

- Toxic foods.
- Malnourishment. More than enough calories, but lack of nutrients in highly processed foods produced from tired soils.
- Chronic infections. Microorganisms lodged deep in the nerves, brain, bones and virtually every part of the body. Bacteria build up protective biofilms. Our stressed immune systems are unable to control them.
- Persistent stress. People compete with each other with their minds, in a desperate search for instant gratification and quick fixes. They want happiness, fulfilment, appreciation, love, wealth, power and attractiveness – more than their neighbours have and right now.
- Low expectations, negative attitudes and beliefs, and unhealthy values.
- Complex toxins and stressors from our medicines, homes, possessions, personal-care products and workplaces.
- Sedentary lifestyles lacking in exercise, outdoor activities, contact with nature, fresh air and pristine water.

If you live this way of life, you are likely to age quickly. Here are some degenerative diseases:

- Inflammation, causing skin problems such as dermatitis, psoriasis, eczema, rashes, boils. Also causing atherosclerosis, heart disease, strokes, kidney disease, numerous digestive problems and more.
- Allergies to food and the environment.
- Adult-onset diabetes, fluctuating energy levels, mood swings.
- Weight and obesity problems.
- Osteoporosis.
- Asthma, emphysema, catarrh.
- Arthritis, gout, kidney diseases, liver diseases, stones in the kidneys, liver or gall bladder, bad breath, body odour, bursitis.
- Cancers.
- Chronic fatigue.
- Poor immunity resulting in persistent fungal, viral and bacterial infections, frequent colds and 'flu, frequent herpes eruptions.
- Heart and arterial disease, poor circulation, palpitations, angina, stroke.
- Digestive problems such as diarrhoea, constipation, heartburn / reflux, stomach pains, irritable bowel, bulimia, colitis, flatulence, haemorrhoids, potbelly.
- Brain, nerve, mental and psychological problems, headaches, migraines, Parkinson's disease, epilepsy, Alzheimer's disease, depression, perceived stress, multiple sclerosis, fibromyalgia, irritability, anger, insomnia, malaise.
- Eye diseases, retinal damage, cataracts.
- Sexual and reproductive problems including frigidity, impotence and premature ejaculation, painful monthly periods.
- Childhood learning and attention disorders, behavioural problems.

- Baldness, greying hair, aged skin.
- Muscle atrophy, back pain, neck pain, sciatica.

Grow Youthful helps you make the choice for a long, healthy, youthful life. It shows you how to prevent the onset of degenerative diseases, and slow or even reverse your ageing. Problems that have been troubling you for years will improve or disappear completely.

SELF-HEALING

Follow the advice in this book, and after a few months (sometimes much sooner), you will start to look and feel younger. Your body will do this because it is a self-healing organism. It is continually changing. *Your body wants to heal itself, if only you will let it.*

Everything is constantly being broken down and rebuilt. The lining of a healthy colon, or the surface of your tongue is replaced every day or two. Your skin is replaced every month. Every three months, your blood is renewed. Within 6 months, virtually every protein in your body is replaced. This includes cells in every organ, muscle and connective tissue. 98% of your entire body, including your bones and the living parts of your teeth, is replaced each year.

As you start to practise the life-changing recommendations in *Grow Youthful*, you will rebuild your body with high quality proteins and nutrients, and a lower level of toxins. At every level, physical, mental and spiritual, you can experience a transformation. Given the right nutrition, loving care, exercise and environment, your body will recover from years of abuse.

Sometimes modern medicine can extend the length of your life, but often at great cost and discomfort. The real determinants of your life expectancy and health are:

- Your mind. Particularly your beliefs and image of yourself.

- How you treat your body. This includes what you eat and drink, how you breathe and exercise, and what medicines, drugs and personal products you do (or don't) use.
- Your lifestyle. This includes your work, play, rest, relationships, and sexual habits.
- Your environment, in particular all the sources of pollution, radiation and toxins you are exposed to.
- Genetics plays a part in your longevity and health, but only a minor role when you are an adult. The importance of your genes decreases as you grow older.^{31,53} Your attitude, behaviours and lifestyle choices have far more impact on your health and longevity than your heredity.¹²⁹

Your mind is the major determinant of your health and longevity. This book will show you how to clarify your priorities and discover what really matters for you; better get to know your body and how to care for it; and take full responsibility for every aspect of your life. This means living by your own truth, not values and limitations imposed by others such as your family, friends, teachers, or a shallow and materialistic society. Real health requires both physical and spiritual cleansing.

Characteristics such as not needing to make a point about yourself to anyone; accepting others and life as they are; feeling valued and loveable, grateful rather than complaining; choosing to feel happy and generous; will enrich and extend your life. Choosing to feel rejected, abandoned, disempowered, unattractive, bigoted, dogmatic, inflexible, angry, resentful, jealous, a burden on others or even useless, will have a marked negative effect on your health and ageing. You will see how these feelings are choices you make, *not* ways of living that you have to accept.

Staying disease-free *and* retaining your youthful abilities is the goal for an empowered and fulfilling old age. A healthy, youthful body is:

- strong, with well-developed muscles and a confident upright flexible posture.

- slim, rather than overweight.
- infection-resistant.
- able to see, hear, feel, smell and taste well.
- bright eyed, with a clear elastic skin, sweet breath and thick naturally-coloured hair.
- lucid and quick-thinking.
- good-natured, with consistent energy, strength, enthusiasm and optimism.
- with good appetite and digestion, enjoying sex, sleeping soundly, easy and regular bowels.

It is never too late to change! No matter how old you are, or how much you have used and abused your body, you can start a new life right now.

Sometimes we have to be brought to the edge or suffer a wakeup call before we are willing to change. So many people who have survived cancer have described it as the best thing that ever happened to them. It forced them to re-evaluate their lives, decide what was important, and get on with it. It also stopped the procrastination in changing sickening habits to healthy ones.

At any age, you can change:

- Teens and 20's. If you happen to be fortunate enough to gain this knowledge in your youth, you have the means to keep your physical, mental and emotional vigour and young looks for many decades.
- 30's, 40's and 50's. Now is the time to cleanse, rejuvenate, heal and reverse much of the ageing and deterioration that has started.
- 60's and older. This is where the most dramatic changes occur. Those who have reached what our society calls old age are usually painfully aware of effects of decades of neglect and abuse of their bodies. Most people at this age are suffering from several degenerative diseases, low energy or strength, faculties (sight, hearing, digestion, memory etc.) that don't work as well as they used to, and a poor self-image or depression. To them, the possibility of

regaining youth at first seems impossible. Nevertheless, thousands of people have actually done it.

The process of ageing is usually so slow that you do not notice it. However, if you are severely depressed, distraught or traumatised, you can age noticeably in a period of weeks or months.

Similarly, slowing the ageing process takes time. As you detoxify and strengthen your body while following the advice in *Grow Youthful*, be patient. After making some of the changes I recommend, you will not necessarily feel better immediately. If, like most people, you are sugar-addicted, it can be a difficult few weeks to get through. If you have released toxins or killed infections and they are in your bloodstream prior to elimination you will feel worse, not better. Skin eruptions, nausea, bad breath, white tongue, body odour and a feeling of malaise can last for days, weeks or months. You will be tempted to give up and revert to your previous lifestyle. However, as your body repairs and cleanses, I can assure you that you will feel and see the dramatic positive effects within a few months and sometimes much less.

The maxim ***use it or lose it*** applies to every aspect of life – all your physical, sexual, social, artistic, creative and other abilities. It is easy to understand that you need to exercise your muscles to keep them taut and trim. However, the use it or lose it principle applies just as strongly to your mind and every other ability you have. The most creative, effective, humorous, focused, social, stimulating and artistic people are constantly exercising their abilities.

Any changes you make in your life because of reading Grow Youthful should be comfortable and gradual. After many years of a particular diet, lack of exercise, or way of breathing, it may take months for your body to accept the changes and years to adjust fully. When I first tried eating mostly raw food, I suffered from diarrhoea. My digestive system has still not adapted so a large part of my diet is cooked, especially in winter. Habits also need time to change. Take it easy, you may not be able to do everything at once, and it might be quite harsh on your body and your mind if you tried. Gradually introduce what seems to be the easiest and

most important to you. *As your health improves, your energy level rises, and you feel happier and more enthusiastic, it will feel quite natural to change your way of living.*

LISTEN TO YOUR BODY

Each of us has a unique body with unique needs. In the same way that we look different and have different personalities, our digestive systems can be different. Some people thrive on certain foods whereas for other people those same foods can trigger their health problems. We each need different types and amounts of nutrients, calories, water, sunlight, exercise, social interaction and every other aspect of life. Your needs also vary depending on your age, state of health, your mental state, geographic location, the season and more.

Many people eat what they think is healthy food – and it might be, but not for them. *If you pay attention to what affects you positively or negatively, it will profoundly improve your health, wealth and happiness at every level.* Fortunate are those people who discover early in their lives the foods, climate, people and lifestyle that are most beneficial to them.

Intuition is a deep and all-knowing feeling of truth. It is usually the feeling that you have in the first couple of seconds before you start thinking about the issue and your mind complicates matters. Be attentive to this initial common sense or gut-feel when you need to make a decision about food (or any other aspect of your life).

If you are not sure about a particular type of food or even a whole plate of food, then listen to your body. Sit quietly with the plate in front of you. Take a minute to look at it, smell it, and tune into it. You will know whether it is something deeply nourishing, neutral, or repulsive. Practise this technique, and you will become far more sensitive to the world around you.

Distinguishing between your desires and your intuition is not always easy. Desires come from your ego, from society's expectations, and from what

others have taught you. Your desires are more concerned with your status in society, your image, and comparing yourself with other people. This is when your ego kicks in and fear, greed and over-thinking cloud the correct decision.

If you feel calm and relaxed about a choice, then your intuition is telling you to proceed. Choose those options that have a good gut feel, that seem to fit and be self-evident. Be present, listen and pay attention. Practice and a genuine desire for the truth will lead you there. Some people describe this process as prayer, others as meditation, and others as growing or maturing.

As your sensitivity increases, you will learn to watch your body and its reaction to your environment. Your feelings and intuition will magnify your senses, and provide a powerful new guide.

Above all, enjoy, have fun, do not worry! If you break the rules or over-indulge occasionally, that is OK. Never feel guilty. If you have a double chocolate ice cream in your hand - enjoy it to the full. Savour it, smell it, totally indulge. If you beat yourself up for any misbehaviour, your feelings of guilt are likely to be far more harmful to your body than the indulgence itself. If you can stick to the rules 90% and go astray 10% of the time, you are doing well.

I read a health magazine for a number of years, and looked forward to the food column each month. The writer, who had her picture at the head of the column, was a healthy-looking woman who obviously knew her stuff. She clearly explained why organic produce was so important, and grew many of her own herbs and vegetables. Her recipes were bursting with flavour, health and living energy, and her writing style was alive with enthusiasm. I would have given (almost) anything to be a regular guest in her kitchen.

Eventually, I met her at a dinner party. She was a classic type A personality – a perfectionist in all that she did, driven, impatient and in control. If everything was not just so, right on time, she resented it. The stress and the imbalance in her life were obvious. She looked ten years

older than her age, in spite of an enviable lifestyle that included wonderful organic foods, a stimulating job, a wide circle of friends, and sufficient time for exercise and socialising.

A long, healthy and happy life is a life of enjoyment, play, fun and thankfulness. It is a blessing to have a healthy, vital body; lots of money, a satisfying career or position in life; a soul mate lover with lots of delicious sex; and many close caring friends. However, obsessing after any of them or feeling the ache of missing out if any one of them is lacking, can detract from your whole life and shorten it by many years.

Grow Youthful is a guide to a healthy, long-lived, conscious way of life that feels good and makes sense. It is not a quick fix, a diet or a fad. This book shows you how to significantly slow your rate of ageing, and avoid the degenerative diseases that plague most people in their later years.

EVOLUTION FOR LIVING FOOD

WHAT IS LIVING FOOD?

Only eat foods that spoil or rot, but eat them before they do.

Living foods are delicious, nourishing and sustaining. When you exclusively eat living foods, you do not want to overeat. They are one of the foundations for a long, youthful and satisfying life.

The foods I recommend in this book, and the way to eat them, will raise your energy to sustained levels you have never known before. A diet for a long and vital life is based on good oils, vegetables, meat and bones, eggs, fish and poultry. It also includes smaller quantities of fruit, tree nuts, and possibly dairy. Some of these foods are fermented.

A living food diet will heal your digestive system, remove toxins, combat infections and then heal your body. It will also have a dramatic effect on your mental health and feeling of wellbeing. In controlled studies, anorexia,⁵⁷ attention deficit disorder, antisocial and delinquent behaviour, depression,⁵⁸ insomnia, schizophrenia⁵⁶ and many other mental disorders have all been improved or cured with nutrition alone. The internationally renowned mental health expert Dr Carl Pfeiffer, who spent his career researching the biochemistry of mental illness, maintains that, *“if there is a drug that can alter brain chemistry for good effect, there’s a nutrient that can do it without side effects.”*

Converting from processed foods to living foods means changing from a trolley of boxes, packets and tins at the supermarket every week, to a load of fresh, organic produce. A better alternative than supermarkets are the organic and free-range shops that are springing up around every city. Some farmers also drive into the city and sell their produce from the side of a truck at a growers market. The ultimate is to grow your own, or personally know the farmer who grew your what you eat.

This is not as daunting as it sounds. A small city garden, once it is established, can provide much of the vegetables and fruit consumed by a family. You get organic, ripe-picked fruit, vegetables and herbs that are in season, have ten times as much flavour as supermarket produce, and even more nutrition. If you cannot have a garden, you can grow a few plants in pots or a window box.

WHAT DID WE EVOLVE TO EAT?

Pre-human

Apes are forest-dwelling herbivores, eating a diet of fruits, roots, shoots, selected leaves, stems, nuts, berries and insects. Many species supplement their diet with eggs and small animals.

About seven million years ago, some of the chimpanzees in the rainforests of Africa began the gradual process of evolution into our earliest hominid (human-like) ancestors. It took two to three million years before the first of them were walking upright, with many human characteristics.

Palaeolithic

The paleolithic age began 2.6 million years ago. Early humans evolved to walk in open woodlands and tree-spotted grasslands, and lost their adaptations such as tails and long arms required for tree climbing.²⁹⁰ Humans could no longer climb trees to escape predators or reach high-hanging fruit. However, with human evolutionary adaptations such as bigger brains, the ability to chase down prey all day, and eat new foods, they were able to thrive.³²²

At first, the diet of these new ground dwellers consisted of insects, birds, small mammals, eggs, seafood and fish, along with roots, tubers and corms, supplemented with small quantities of wild, in-season fruit when the climbing to pick them was not too difficult.

According to S. Boyd Eaton of Emory University in Atlanta, the climate began to cool around 2.5 to 3 million years ago, with the start of the first of a series of ice ages. The rich herbivorous gardens in the tropical forests declined. Open grasslands became the dominant type of vegetation, and grazing animals flourished.

The main adaptation in human physiology was as spear-throwing grassland hunters. Early hominids, with their greater intelligence and hunting skills at first hunted small animals, but then came to rely on large grazing animals as the climate changed.

Homo sapiens turned into highly evolved hunter, the most lethal predator on the planet.³³⁰ Let's consider the evidence.

Bigger brains. Humans evolved large brains over the paleolithic period. Two million years ago, early homo started with a 600 cubic centimetre brain, today the brain of homo sapiens averages 1,300 cc. Our brains use 20-25% of our calories. This huge increase in brain energy consumption required more nutrition and calories. The two rich sources of calories they had were animal fats and cooked roots and tubers.

As paleolithic brains grew and evolved, their adaptation went into a positive loop. More brainpower meant better tools, hunting, division of labour and planning, which provided more food and calories. Larger brains enabled skilled planning and teamwork as hunters. Social skills evolved, improving the sharing of tasks and food. Men tended to hunt, women to gather plants and prepare food. At the end of the day, they all returned to a central meeting place to eat and sleep.

Hunting requires planning, teamwork, emotional control and levelheadedness. Several studies show that these characteristics developed as the forefront of their brain grew.^{323,324,325}

Running endurance. Humans can run long distances compared to most other animals, especially all other primates. Endurance running evolved about two million years ago, when we developed a narrow waist, long legs, short toes and enlarged hind limb joints. Humans run down their prey until it is exhausted.³²⁷

We also evolved a better cooling system to cater for the heat generated when chasing an animal all day. The loss of most body fur and sweating are adaptations to avoid overheating.³²⁶

Spear throwing. After running down their prey, humans needed to be able to kill it, preferably from a safe distance. Starting two million years ago, we evolved a flexible waist, sideways-facing shoulder joints, and a straighter upper arm. This provided elastic energy in the shoulders, to enable spear throwing with great speed and accuracy.

Complex hands. Versatile hands and fingers enabled the manufacture of new tools and weapons. Sharp cutting tools appeared right at the beginning of the paleolithic age 2.6m years ago, and stone tipped spears dated half a million years old have been unearthed from Kathu Pan in South Africa. These weapons evolved with our bigger brains.³²⁸

Not scavengers. Until recently there was a debate whether early humans were hunters, or scavengers of carcasses killed by other carnivores.

Joseph Ferraro and Thomas Plummer unearthed two million year old stone tools and animal bones at Kanjera South, on the shores of Lake Victoria in Kenya. Thousands of animal bones were stripped of flesh and marrow and showed little carnivore damage, confirming human hunting rather than scavenging. The bones came from different sediment layers covering thousands of years, showing “*persistent hominin carnivory*”. Analysis of these bones also showed that plants were part of their diet, especially starchy tubers.³²⁸

Other research showed that humans were hunters that deliberately targeted prime animals. Lions and other animal predators tend to pick off the old, the sick or the very young animals in a herd. However, humans tend to target larger animals in their prime in a herd. Studies have found that early human butchering sites had the bones of a high proportion of animals in their prime.³²⁹

It was largely hunting that enabled human colonisation of the entire world. Humans left Africa about two million years ago, the same time they became adept hunters.

In summary, modern humans seem to be adapted to an omnivorous diet. We can easily digest meat, and are well adapted to eating other animal foods like fish, eggs and birds. We also need plant foods like roots and vegetables, supplemented with nuts and fruits. We may be better adapted to eating cooked rather than raw meat and roots. Grains, seeds and legumes were never a part of the paleolithic diet and we have not evolved a digestive system for them.

Our paleolithic ancestors:

- were meat eaters. According to a study by Professor Loren Cordain, Dr Eaton and other scientists,^{16,207} 65% of stone-age man's calories came from meat and other animal sources, and 35% from plants. Other writers such as Jared Diamond maintain that their diets contained a lower proportion of meat.^{91A}
- valued fat. Every primitive culture and every traditional culture still values fat. In most cases, that fat is animal rather than plant sourced, though populations in warm coastal areas use coconut or palm oil, and Mediterranean diets use olive oil (these cultures also use plenty of animal fats).
- ate a rich variety of wild vegetables. They consumed a little tart wild fruit and tree nuts, but only during limited seasons during the year.
- did not eat grains, cereals or legumes.
- did not consume dairy products. However, they were all breast-fed as infants.
- Cooked at least part of their diet (page 124).

Their food was fresh, wild, and without any refining or processing. All their foods were in-season, and fruits were picked ripe. They had around 300 times more phytonutrients than the typical modern Western diet.

Of particular note is the low proportion of carbohydrate. The little they ate came from roots, vegetables, nuts and fruits, all unrefined, unprocessed and fresh. All this produce was wild and native rather than bred for sweetness like today's fruit. They were slow-digesting, low

Glycemic index (page 230) carbohydrates. Paleolithic people did not suffer from wild blood glucose fluctuations, because they got most of their energy from fats rather than carbohydrates.

Carnivore – human comparison

Strength and agility. Carnivores are adapted to chasing, catching and killing prey. They are quick and strong. Humans have low agility – most people would have a hard time catching even a chicken in an open space. We also have relatively weak muscles compared to most other animals. However, humans have evolved as endurance hunters, chasing down and exhausting their prey over many hours or several days. This strategy has proved more successful than a rapid chase followed by claws and sharp teeth.

Teeth. Carnivores have long, sharp incisors, canine teeth and claws. They tear off meat and swallow it in large chunks. Herbivores have incisors for cutting or ripping plants, and flat teeth for grinding. Human canine and incisor teeth are small compared to those of a carnivore and are better suited to biting through cooked meat and vegetables and then chewing them.

Digestive tract and stomach. *Carnivores* have a short digestive tract – a lion's is about four metres long. Carnivores (and to a large extent humans) process each meal as a whole. They have a fast digestive system, so that the meat they eat is sterilised in a strong acid stomach, quickly digested, and quickly excreted the same or the next day. Carnivores often manage on one meal per day, whereas herbivores spend a large part of the day eating.

Enzymes produced by the carnivore's pancreas, gall bladder and liver digest its food in the small intestine. Nutrients from that food are absorbed through the wall of the small intestine. Humans are similar.

Herbivores have between one and four digestive chambers. Some chambers contain high concentrations of microorganisms and involve regurgitation and chewing the cud. A ruminant's forestomach continually lumps all meals together and separates out the fines from the coarse fraction. The coarse fraction is repeatedly sent back to the mouth for cud

chewing. The last chamber is most like a stomach and contains weak acid designed to kill the billions of gut flora that have digested the food earlier.

Ruminants may graze for eight hours per day, and spend many more hours chewing the cud. The food they eat takes longer than a day to pass through for excretion, with a portion of the excrement having been in the animal much longer.

Humans have and need bacteria in their digestive system – mostly in the caecum at the start of the large colon. Fibre and any pathogens tend to pass through quickly, but fine particles tend to loiter for fermentation in the caecum. Bacteria make butyric acid, vitamin B12 and other nutrients in the caecum. The caecum is not even a separate chamber, and it is much smaller than the digestive chambers of other herbivores.

Nutrients required from animals. Like carnivores, we need a regular supply of zinc, iodine and iron, and we are unable to synthesise vitamin A, vitamin B12, essential fatty acids and the amino acid taurine.

Early Agriculture

Paleolithic humans evolved over 2.6 million years. All our main human characteristics evolved in this long period. By contrast the last 10,000 years, during which agriculture with its grains, domestic animals and dairy produce emerged, is but a pinprick in the scale of human evolution. Our physiology and biochemistry is the same as that of the Palaeolithic people. *Humans have not had sufficient time to adapt to an agricultural diet.*

There is evidence of storage of grass seeds at an African paleolithic site 105,000 years ago.³¹⁴ However, the first clear evidence of the processing and cooking of wild cereal grains is at a site in Israel 12,000 years ago.³¹⁵ About 10,000 years ago, the first people started growing grasses like wheat so they could harvest them. The first agricultural grains were probably grown as a food for animals, not for humans. However, our early ancestors soon discovered how to eat them. They roasted and parched the grains, ground them between stones and cooked the dough over a fire, boiled them into gruel, and fermented the first forms of beer. They

discovered that soaking and sprouting grains makes them more digestible.

A variety of grains has become the mainstay of the human diet in the last 4,000 to 7,000 years as people found them to be an easy and cheap food source.

The recent advent of agriculture and a grain-based diet provides cheap high-calorie food. Farming, particularly of grains, has been the key to the growth of the world human population, and a less physically active lifestyle that permitted the rise of permanent cities and civilisations.

Farming has increased the amount of fats we eat. It may be that plentiful fats (rather than grains) have enabled the growth of human populations. Farmers bred their livestock for increased fats over thousands of years. Farm animals have significantly higher levels of fats in both their flesh and their milk than wild animals. Fats contain more calories than carbohydrates, and can provide the energy for healthy and sustained living. You will see throughout this book that agricultural grains are not a healthful food, whereas good fats are.

The ancient Tao texts recognised grains as newcomers to the human diet. Taoists repeatedly and clearly stated that *grains should be avoided, as they had ruinous effects on health and longevity*. Archaeological evidence shows a decline in many indicators of human health (stature, size, small tendon attachments, bones, teeth and signs of inflammation) after people started eating grains.^{289,364}

There is an overwhelming argument that many degenerative illnesses are correlated with the introduction of grains to the human diet, particularly in the form of refined carbohydrates. Numerous studies⁹¹ show that modern high carbohydrate diets, particularly refined foods, are responsible for fluctuations in our blood glucose level that cause insulin resistance, most modern degenerative diseases and rapid ageing.

Modern Milling

During the last century, high-speed rolling mills have replaced traditional millstones where whole-grains were ground at low speeds to make coarse

natural flour. The speed at which the modern mills grind produces intense heat in the microstructure of the grain particles. The natural oils in the grain kernels are oxidised, and aside from being toxic, give the flour a rancid flavour. The solution was to de-germinate the grain, by pulverising it with rollers and removing the nutrient-laden kernels (germ) that contain unsaturated oils and vitamins. The grain husks (bran) are also removed, along with fibre, magnesium and most vitamins, leaving only the starchy white pith. The resulting white flour is dead, de-natured starch particles, finely milled with a disastrously high Glycemic Index.

This fine white flour has excellent commercial properties. It is stable with a shelf life of years. It makes light, fluffy breads and pastries, and provides a wide array of options for cakes, biscuits and baking. It is suited to the large scale, commercial production of bread and other refined foods. After the food industry discovered how to mill white flour on a large scale, they promoted it as making superior, better-tasting products.

Dry grains that have not been soaked, fermented or sprouted contain phytic acid and enzyme inhibitors (page 129), which make them indigestible. Phytic acid causes mineral deficiencies and bone loss. Many traditional types of bread are made from fermented or sprouted grains; all the other traditional breads are made over a period of many hours or even days. However, modern commercial breads, cakes and pastries are made in only a few hours – insufficient time to break down the phytic acid and enzyme inhibitors.

Standard American Diet (SAD)

The low point in the evolution of human eating habits is the SAD. High in flavour, low in nutrition, available within seconds, 24 hours per day, appealingly packaged, reliable, cheap and consistent.

Processed foods include fast foods, packets, cans and jars of ready-to-eat convenience food, pre-cooked frozen dinners and packaged snacks. They are usually cooked, and often processed at high temperature and pressure. Processed foods are dead, containing no enzymes (page 116). They include debilitating, denatured ingredients such as sugar, refined

starch in the form of flour, pasteurised cow's milk, refined salt, and hydrogenated and damaged vegetable oils. In addition, the processed food industry uses over 5,000 synthetic chemicals as preservatives, emulsifiers, stabilisers, flavour enhancers, artificial sweeteners, colours, deodorants, anti-caking and anti-foaming agents, humectants or drying agents. Your body correctly recognises most of them as toxic foreign agents that it tries to eliminate, putting great strain on your digestive and immune systems. After years of daily exposure to such “foods” your exhausted immune system leaves you vulnerable to attack by microbes, toxins and cancerous cells.

Processed foods are toxic and addictive, and are the primary reason for the epidemic of obesity in the Western world. They cause you to overeat, and lower your sense of wellbeing.¹¹⁴

Fast and processed foods appear to be cheap, but that is an illusion. In the long term, processed food is extraordinarily expensive.

The objective of food manufacturers is to make a profit. They buy the cheapest possible ingredients, package them attractively, advertise the product, and sell it at the highest possible mark-up. Processed foods have the following characteristics:

- Transportable – tough, inert and resistant to heat, light and vibration.
- Long shelf life, sometimes for months or years.
- Addictive – laced with sugar²⁴⁵ (particularly fructose or high fructose corn syrup, HFCS), refined salt, caffeine and other hard-to-give-up ingredients. A successful manufactured food is one that does not satisfy, but rather induces repeated purchases.
- Highly flavoured with synthetic flavouring (which is cheaper and usually indistinguishable in taste and smell from the real ingredient). Sugar and salt are also extensively used.
- Attractive. A great deal of thought and expense goes into the packaging of the product, and artificially colouring it.
- Easy to use. Flows freely, doesn't need stirring or mixing.

One of the best examples of processed food is breakfast cereal. To make corn flakes, puffed wheat and other breakfast cereals, a small quantity of grains are heated and compressed to a pressure of around 1500 pounds per square inch, before explosive release. The molecular structure of the grain is transformed, and it is no longer recognised as a food by your body. An experiment⁸⁴ at Ann Arbor University in 1960 fed cornflakes to one group of rats, and the boxes they came in to another. The cornflake-fed rats all died before the first of the cardboard-fed rats succumbed. The results were never published.

Sugar is added to most processed foods – soft drinks, fruit juices, dairy products such as ice cream and yogurt, cakes, pastries, breads, sauces, jams, jellies and dressings. The main sugars used are sucrose (table sugar) and high fructose corn syrup (HFCS). They are industrial poisons that ravage your health and longevity by causing wild fluctuations in your insulin and blood glucose levels and raising your blood triglycerides.

The top-selling products in Western supermarkets are soft drinks, breads made from fine ground refined flour, potatoes and fries, breakfast cereals, white rice, pizza, pasta, sugars, sweets (candy), jams and fruit juices. Factories and laboratories manufacture these SAD foods, not nature. SAD foods bear no resemblance to anything you could find in the wild, in a garden, or in the kitchen or food preparation area of any traditional culture. Even the supermarket fruits bear no resemblance to those in nature (page 42).

SAD foods include herbicides, pesticides, fungicides, antibiotics and hormones. You do not know what the food is made from. Manufacturers keep their ingredients and recipes secret unless forced to display them.

Plant variety

Our early ancestors ate from hundreds, if not thousands of different plants. Even a century ago, farmers grew dozens of different varieties of heirloom apples, cabbages, carrots, lettuces and hundreds of other fruits and vegetables. Today most have been lost, bred out to those with the highest yields and best storage and handling characteristics. I counted the

number of different fruits, vegetables and herbs for sale in a large supermarket – the total was 70. Today, only 30 crops account for 95% of everything humanity eats, and just three of them (rice, corn and wheat) represent 80% of mankind's food.

Every plant contains toxins. Some are more poisonous than others, but each plant has specialised toxins to protect itself. Our early paleolithic ancestors ate some quite toxic plants, but only in limited quantities as they found them in the season and places where they grew. This way, the toxins never built up or affected them.

Although the most potent toxins have been bred out of the few major crops that we use today, we are subjected to an endless barrage of the same low-level toxins in the foods that we do eat. Our digestive and immune systems are exhausted, particularly from our heavy use of grains.

If you eat only a limited number of foods, you can also become addicted to those foods, and giving them up can be as difficult as healing an alcohol or drug addiction.

FARMING METHODS

CONVENTIONAL (CHEMICAL) FARMING

Broad acre farming requires that vegetables and other crops are uniformly planted over large areas. A combination of fertilisers, herbicides, pesticides, fungicides and biocides are applied according to a schedule provided by the chemical suppliers, and are used even if the particular crop shows no specific need for that input. This means that the system provided by the chemical companies will work reasonably reliably, even on sandy barren soils. It has to, because after years of using the chemical system the soils are destroyed, and the insect and bacterial life that provides natural protection and sustenance to crops is lost.

Chemical (conventional) farming is oriented towards large-scale production. It is a reliable method of getting huge quantities of fruit and vegetables into supermarkets at low prices. Large fields of identical crops

or trees are easier to harvest than small or mixed areas of crops. Large-scale mechanization of tilling, planting, fertilizing, watering, spraying and harvesting is possible. The huge output from these farms can be stored, transported and marketed at low cost. All the inputs can be reliably budgeted in advance, as can the sales of the similar-sized, good-looking but un-nutritious crops.

Crops produced using chemical farming are deceptively attractive. The nitrogen, phosphorus and potassium in fertilisers are sufficient to produce a healthy-looking fruit or vegetable. *Unfortunately, as the years go by, each harvest will contain fewer and fewer minerals.* Zinc, magnesium, manganese, selenium, chromium, molybdenum and many other trace minerals are lost from the soil and never replaced.

The average person eating chemically farmed produce consumes 5 kg of food additives each year. If they are consuming non-organic fruit and vegetables, 4.5 litres of pesticides and herbicides were sprayed on the foods they ate. Thousands of new chemicals have been introduced into the environment in the last three decades, and most of them have found their way into the food chain.

The worst contaminated non-organic produce are strawberries, potatoes, raisins, red and green bell peppers, spinach, cherries, peaches, bananas, cantaloupe, celery, apples, pears, apricots, green beans, grapes and cucumbers.⁸⁵

Peanuts are often contaminated with pesticide, and are susceptible to toxic moulds (e.g. aflatoxin or mycotoxin). Note: peanut butter is often made from nuts rejected as suitable for whole-nut consumption – the risk of mould infection is higher.

Washing conventional produce. Here are some tips on preparing foods that have been sprayed or grown with chemicals.

If the fruit or vegetable has a shiny waxy finish sprayed on by the producer, washing will not remove the fungicides and pesticides under the wax, so you need to peel them. Apples and cucumbers are often waxed.

A 1996 study³⁸ tested the effectiveness of washing grapes, berries, beans, leafy green vegetables and several fruits in the kitchen. They swirled them in a dilute solution of dish detergent in room temperature water for five to ten seconds, and then rinsed them. Sturdier fruits and vegetables were scrubbed with a vegetable brush. If the item was peeled, it was not necessary to wash it. Washing in this manner removed all traces of pesticides from more than half the samples, and significantly reduced the residues in all the others.

Heavy metal pollution is also a common occurrence. You can remove most of these metals by washing them in a bowl of tap water to which you add two tablespoons of vinegar. Elements such as lead, cadmium and mercury react with the acid and can then be rinsed away.

ORGANIC

Organic produce is grown without the use of herbicides, pesticides, fungicides or biocides. The soil should be pollutant-free, alive (plenty of microorganisms) and well structured. If chemical products have previously been used the land, it can take decades to rehabilitate the soil.¹⁰ Heavy use of fertilizers in the past can cause a deficiency of micronutrients in the crops produced,¹⁰ as well as ruin the soil.

Unfortunately, the word “organic” has been hijacked by the big food industries, particularly in the USA. Most organic vegetables in the USA are now grown in giant monoculture (single crop) farms. Organic beef is usually raised in feedlots where the poor cattle are fed “organic” feedstock, a far cry from being able to range over grasslands and eat their proper food (grass). Similarly, organic or free range chickens are still raised in huge feeding sheds, even if they have a tiny patch of (unused) open land outside. However, it is true to say that these foods do contain significantly lower levels of chemicals.

Genuine organic crops have higher levels of micronutrients, are more intensely flavoured, and have greater resistance to disease and insect infestations. A meta study of 343 peer-reviewed publications concluded that the nutrient and toxic content differences between organic and non-organic crops and foods are significant.³⁹¹

A quick way to compare the quality of fruits and vegetables is to cut them and expose them to the air, and check how long they take to brown (oxidise). I have seen a nutrient-poor, non-organic apple that has browned significantly within half an hour. On the other hand, a slice of organic apple fresh-picked from a tree may take hours to brown.

If you have to use non-organic fruit or vegetables, then seek the best quality produce that you can and wash it carefully as described above. Grow some herbs or vegetables in a window box or in your back yard. The addition of even small quantities of vegetables and herbs picked a few minutes prior to consumption adds to the life and nutrient spectrum of your food intake.

PERMACULTURE

Permaculture techniques¹⁰ are often used in smaller organic farms where natural biological processes support each other. For example, compatible plants are placed next to each other where the smells, compost, shade or soil nitrogen from one plant benefits the plant next to it. Poultry has a part to play, eating insect pests and fertilizing the fruit trees. Fish are required in the ponds, eating mosquito larvae in addition to aquatic plants. Insects, wild birds and small animals are attracted into this circular process, where each component makes a valuable contribution. Permaculture systems do not allow for the ongoing and large-scale removal of crops from the system. Rather, everything is re-circulated.

BIODYNAMIC

Biodynamics takes organic farming further. It uses techniques developed in the early 20th century by Rudolph Steiner, an Austrian philosopher and scientist. Farmers applying these practices have repeatedly shown that in a few years they can create rich deep friable soils that might otherwise take many decades to develop. The methods may seem weird to a newcomer. Phases of the moon, and a preparation made from cow horns, manure, and flowers picked on the day they open are involved. However, they work, and people who try them have transformed their farms and their crops. Scientific research is gradually uncovering why biodynamic

farms are so healthy. On the day a flower opens for example, its roots shoot up a selection of trace elements to the bud. The next day, those trace elements are returned to the roots.

The focus of biodynamics is to enhance living processes using the forces of air, water, sun and soil. Used correctly, they can dramatically transform soil and all that is produced from it.

Biodynamic food tastes better than chemically produced food. It is alive, full of flavour, and lasts longer – a biodynamic broccoli was still crisp and firm after two weeks in my fridge, when the supermarket equivalent would have been tired and wilted after less than a week.

HERITAGE vs FRANKENFRUITS

The fruits that you can buy in a supermarket today have been bred to be intensely-sweet, large and attractive-looking. They have a long shelf life and do not bruise as easily. These “Frankenfruits” are large, intensely sweet, and look beautiful. Many of these fruits have only been bred in the last few decades, tailored for the requirements of supermarkets and their unconscious customers. They are nothing like the fruits that our ancestors ate. Nowhere in nature do you find huge super-sweet high-fructose apples, pears, oranges, plums and grapes.

As little as a century ago, a much wider variety of fruits and vegetables were available. There were dozens or even hundreds of different varieties of apples, different lettuces and different melons, for example. These “heritage” fruits and vegetables were a lot less sweet, they contained pips which allowed them to breed easily, and they often spoiled more quickly and easily. They were also a lot more nutritious.

If you can, look for heritage produce. It is sometimes available at farmer’s markets, or from people who know how superior these fruits and vegetables are. Conversely, try to avoid the new super-sweet varieties. Apart from being high in fructose, they have little flavour (often tasting quite bland) and little nutrition. Most people have experienced the difference between a perfect-looking supermarket tomato, and a home-variety heritage tomato just ripe-picked from a garden.

People buy these large, attractive super-sweet fruits in the mistaken belief that they are healthy foods. However, it is easy to overdose on these high-fructose fruits. Fructose (page 65) in excess of small quantities is [toxic](#) and responsible for liver damage and obesity. Always try to buy small, tart heritage fruits, especially if you are overweight or want to have the longest possible life.

FREE-RANGE

Animals and birds that are free to roam around the farm and forage for their natural diet, eating wild vegetation, insects, and worms and getting plenty of fresh air and exercise, produce free-range products. They are not cooped up in small cages or feeding lots, nor are they fed any commercial feeds or supplements.

The best animal products come from birds, fish and other animals in their wild natural habitat eating their natural foods. Wild, ocean-swimming fish are vastly superior to farmed fish. The natural diet of cattle is grass. Cows, which are social animals, produce vastly superior milk and meat when they are free to wander and graze on green pastures. All animals need to exercise, forage, and eat their natural diets – which may consist of grasses, shoots, leaves, grubs and insects.

Poultry farms and eggs that claim to be free-range are often not. They are an improvement on the tiny battery cages in the worst cases, but the hens are still fed an artificial diet and are limited in their ability to range.

Animals, including fish and poultry, that are fed on grain and other feeds rather than their natural diet produce flesh and eggs that are deficient in nutrients, especially Omega-3 essential fatty acids. There is a correlation between many twentieth century diseases, especially heart disease, and the consumption of the meat of grain-fed cattle.

Feeding animals on grains and some of the appalling ingredients in animal feeds, such as sawdust, ash, dried and powdered slaughterhouse and abattoir waste, pig and poultry farm manure and grain milling by-products⁹ can only mean they produce sick meat, milk and eggs. Farmed fish look different to wild fish, with tatty fins and a different colour.

Another reason to look for grass-fed rather than grain-fed beef and dairy is to avoid mould contamination. Animals are often fed on grains that are rejected for human consumption because of mould contamination. The fat in their meat and dairy products contains fungal mycotoxins. Studies that link red meat to cancer virtually always use supermarket meat. If the research studies instead used organic grass-fed meat, I would be willing to bet that there would be no cancer link.

Battery farmed chickens typically have poor feather coverage, numerous illnesses and aggressive behaviour.

Animals that are fed on grains and other feeds rather than their natural diets get sick, so most commercial feeds include small quantities of antibiotics. Eat the products of these animals, and you get an unwanted dose of antibiotics. These regular doses of antibiotics depress your immune system, leading to numerous diseases. This is also responsible for the development of strains of antibiotic resistant bacteria, causing a threat to the community's health.

Various synthetic hormones are also fed to and injected into animals to make them gain weight faster. Steroid hormones cause cattle to grow fat fast so they probably contribute to obesity in humans who consume the meat and milk of these animals. Hormones are used to bring entire herds of cows into heat at the same time for breeding, to increase milk production, and induce abortions in pregnant cows scheduled for slaughter. These female (oestrogenic) type hormones are a likely cause of breast and ovarian cancer in women, prostate cancers in men, and premature puberty in children. This is especially true for growing children. As big North American fast food chains set up operations in Asian cities, the once healthy children there soon show all the signs of chronic ill health that plague American children: obesity, acne and pimples, respiratory infections, premature puberty, and behavioural abnormalities.

Cattle absorb the chemical fertilisers, herbicides and pesticides used in their feed crops. The outbreak of mad cow disease in England in the late 80's was probably caused by feeds that included animal products.

When animals are confined in a small feedlot or cage and cannot move around freely, and are overfed on an unnatural diet of grains, they gain an excess of fat that tends to deposit in and around their muscles. Much of the grain-fed beef produced in North America, Europe and Japan is marbled with such fat. In Australia, as well as many South American and African countries, the cattle are free to range and the fat content within the muscles is almost as low as in game meat, at around 5%. Selvege fat is the fat under the hide, around membranes and between muscles – the fat that you can easily cut off. If the meat you are eating is not organic, toxins such as pesticides, antibiotics and synthetic hormones tend to accumulate in the animal's selvedge fat and skin.

Kangaroo is probably the best choice in Australian domestic meat. They are either wild or farmed in large ranges. Most Australian cattle are free ranging, but there is an increasing tendency to put them in feedlots, especially prior to slaughter. Australian sheep are normally allowed to range freely. They are out in the sun and fresh air, and are not usually contaminated with drugs and hormones (though most are dipped for parasites such as ticks). Lamb has always been the meat of choice in India, the Middle East and the Mediterranean, where arteriosclerosis and heart disease have never been prevalent. Even better than lamb is wild game such as deer, pheasant, duck and quail, but these meats are hard to find.

PICKING GREEN FRUIT

It is criminal to pick unripe, green fruit. Green harvesting typically involves picking fruit seven days prior to ripening, and is widely practised throughout the world. Green-picked fruit has almost no vitamins and minerals, but instead contains salicylates, a natural preservative and insecticide.

People are chomping into fruit thinking they are eating nutritious food, when it is simply not so. All these years you thought oranges were a rich source of vitamin C, but some supermarket oranges contain almost none.³⁶ It is essential that your fruit is ripened on the tree or on the vine,

and not after picking. The worst affected are tomatoes, citrus and various berries.

The only fruits that may be picked under-ripe are avocados and bananas.

Salicylates occur in most green fruits and in some vegetables such as radish, capsicum and zucchini. They act as a natural preservative to delay rotting, and as an insecticide.

In the last 3 days of a fruit's ripening, salicylate levels fall and are replaced by nutrients entering through the stem of the plant. For example, a large green apple contains about 150mg of salicylate, and in the last three days as the apple fully ripens most of the salicylates are removed, and replaced with a diverse range of vitamins and minerals, particularly vitamin C, zinc and selenium.³⁶

Soon after salicylates were discovered, they were used as a preservative in factory-processed foods but were banned in the 1950's because many people were reacting adversely with headaches, indigestion, vomiting, diarrhoea, aches and pains, coughing and wheezing, a blocked or runny nose and itchy rashes. They are also responsible for hyperactivity in children. Salicylates inhibit the uptake of some minerals such as zinc. You get a triple whammy when you eat green-picked fruit:

- a dose of salicylates.
- no or low nutrients, especially vitamin C, zinc and selenium.
- a digestion-inhibitor that stops you absorbing what little minerals there may be in the green-picked fruit.

The practise of picking fruit green is quite understandable, because if all fruit were picked fully ripe, the cost of each piece of fruit at your supermarket or greengrocer would be many times higher. A soft ripe peach would have to be handled, transported and stored differently, and would last only a small fraction of the time that a green-picked peach would.

Most fruit is picked green and hard, and force-ripened immediately prior to its sale. Chemicals such as ethylene gas are used to artificially ripen and

colour the fruit. There is little physical damage to the fruit, and little chance it will over-ripen and spoil before sale.

It is well worth paying several times the price for tree or vine-ripened fruits. Grow your own fruits in your backyard, or buy fruit directly from organic suppliers or co-operatives where you can speak to the grower and ensure that it was picked ripe.

Deterioration within Minutes. All animals need living food. Fruits and vegetables develop phytonutrients and enzymes as they grow. Think of any herbivore grazing on grass. The grass is alive and growing right up until the moment it goes into the animal's mouth. Any animal in the wild eats ripe fruit, straight from the tree or vine and into the animal's mouth. Our early hunter-gatherer ancestors would have enjoyed the same level of freshness with nearly everything they ate.

Some fruits and vegetables start to change within seconds of being picked. The chi, or life of the produce starts to die from that point, as the micronutrients deteriorate. Of course, different types of fruit and vegetables can take from hours to days before they lose most of their nutrition. For example, a ripe and soft peach will be perfect when picked, but will be noticeably softer and less life filled after a couple of hours in the sun. In contrast, a pumpkin may not change noticeably for weeks.

If you do not have your own garden, search for whatever is grown locally, and avoid the tired, limp fruit and vegetables at your supermarket. There are increasing numbers of grower markets in all cities. Many people with rural smallholdings have excess from their trees and gardens, and are glad to make some extra money. I have found a couple of such suppliers by talking to friends and reading the local newspapers.

A small suburban backyard can produce a surprising amount of food. I recommend speaking to an expert before starting a garden. It is important to know which trees and vegetables thrive under your local conditions. Equally important is keeping to permaculture principles,¹⁰ where everything supports everything else. A small suburban

permaculture garden can provide most of a family's needs, and once it is established it is a great source of organic, ripe and fresh produce.

If you do not have a garden, at least get a couple of planter boxes and grow some herbs, tomatoes and other vegetables on your balcony or windowsill. You can treat yourself to chives, basil, mint, thyme and other fresh and full flavoured produce, and at least a portion of your diet will be alive.

IN SEASON

Lets go back to our ancestors 50,000 years ago. Would they have been able to eat fruit and vegetables imported from a different climate, or from the opposite side of the world, where a different season is in progress? Nature provides food packed with the nutrients you need for the season and place where you are. A healthful diet in one location is frequently disastrous for different people elsewhere in the world.

In winter in a cold climate you may be inclined to eat a hot meaty broth rather than a raw salad. Dense, high-energy root vegetables like potato, taro, cassava, tapioca and sweet potato are most suitable for making delicious nourishing soups for those cold days. Artichokes, broccoli, Brussels sprouts, carrot, cauliflower, leeks, parsnips, peas, silver beet, spinach and turnips are typically available in winter. At the end of winter, the first shoots and buds appear – high-nutrient food, in preparation for the summer activity ahead. Summer produces salad vegetables that are rich in vitamins and minerals, such as capsicum, corn, cucumber, endive, lettuce, spinach, watercress and leafy herbs like basil and parsley. Summer fruits include peaches, apricots and nectarines.

RICHEST PART OF FRUIT / VEGETABLES

The most nutritious part of a cabbage is the outer dark green leaves. Most people throw away the oldest, toughest and most insect-eaten

leaves. The same applies to any other vegetable – most nutrients are concentrated towards the outside, or in the outer green leaves. With fruit, the minerals, vitamins and enzymes are located predominantly in the skins and rinds, particularly the white pulpy flesh immediately under the skin. For example, with watermelon, the white flesh under the skin (the least palatable) is also the most nourishing. The core and the seeds in most fruits are also highly nutritious - another part that we tend to throw away. Have you ever seen an animal ignoring the core of a fruit, the pips, or its skin?

When you eat a fruit or vegetable, you can often eat the whole, complete item. For example, with a beetroot, eat the leaves and stalks along with the roots. Eat broccoli and cauliflower leaves, as well as the flowers. With fruit, eat the skin, the core and the seeds, as well as the tender inner portion. The white fibres between the segments of an orange or other citrus fruit are rich in enzymes and amino acids. In addition to consuming the most nutritious part of the plant you also get the benefit of symbiosis, where the complex enzymes and other components of each part of the plant support the others.

Sometimes the stalks may be pithy, the leaves may be bitter, or the skin of a fruit may be uninteresting (who likes orange peel?) However, do keep experimenting – you will add to your nutrition, waste less, and find some new favourites. I used to throw away broccoli stalks for example. Nowadays I peel them, and expose a delicious crunchy vegetable high in vitamin C.

Remember however, that the skins and outer leaves are likely to be the most contaminated or polluted. If the produce is non-organic and has been sprayed with pesticides or fungicides, or if it has been sitting outside in traffic fumes or other pollution, then discard the outer leaves or skins. Effective ways of washing produce are discussed on page 38.

Note: Do not eat any additional parts of nightshade vegetables such as tomato, potato, capsicum and aubergine (page 159). For example, the leaves of a tomato plant or the flowers of a potato are poisonous. The roots, leaves and shoots of most wild plants are also toxic. Among

common fruits and vegetables, avoid carrot and rhubarb greens and the outside skins of orange and grapefruit in large quantities because of the toxins they contain.

MODERATION

OVEREATING

Overeating has a devastating effect on your health and longevity. After a meal, you should feel satisfied, or ideally just slightly hungry.

The stuffed groans and belt loosening that end many meals have a high cost in terms of your health and longevity. In many cultures around the world such as France, Japan, China, Korea, Nepal and India, overeating is considered disgusting. You will enjoy your food more by emphasising its quality and presentation, rather than how much you can cram onto a plate and into your stomach.

The amount of food you eat (and your resulting weight) is pivotal to your health and longevity. A mass of scientific research confirms this.^{19, 20, 21, 22,}

^{41,117} Ancient Tao and Buddhist teachings have repeatedly emphasised this point over the centuries.

Overeating is part of a vicious cycle caused by a high carbohydrate processed food diet, hormonal imbalance, a low muscle mass and several other factors discussed in this book (especially the section A NEW EPIDEMIC).

37.5% of the world's population is overweight or obese.³¹⁶ It used to be just rich countries that had fat people, but as American style processed food spreads around the world, poor countries are also suffering the consequences. Even in China, which had a devastating famine within living memory, 27% of all people are now overweight or obese, with higher rates among city-dwellers.³¹⁶

Overweight means having a body mass index ([BMI](#)) of 25 or more, which for a man standing 175cm (5'9") tall means a weight of 77kg (170 pounds) or more. Obese means having a BMI higher than 30 (92kg).

In 1980, 48% of North Americans were overweight. In 2000 around 55% were overweight, of which 25% were obese.^{238,316} By 2010, the overweight had increased to 67%, and obese to 36%, with similar figures in 2013. More than 25% of children are overweight.^{114, 238,316}

Overweight and obese people grow old early and suffer higher rates of degenerative diseases such as diabetes, heart and artery disease. Since 1990, obesity has grown faster than any other cause of disease.²³⁸

Why is overeating so damaging to your body? Overeating produces high levels of toxic waste. Western lifestyles and lack of exercise do not eliminate these wastes efficiently, and instead they accumulate. This leads to hormonal imbalances, accumulation of fat, toxic build-up, sickness and ageing.

If 90% of the free radicals in your body come from the food you eat (page 113), it follows that overeating generates a high level of free radicals.

However, it is important that you are not malnourished in any way. For a long and healthy life, you need a high quality, high-nutrient diet with the minimum amount of calories for your level of activity. Reduce your calories, but ensure you get a full range of macro and micronutrients. *If you are getting all the nutrients you need, you are less likely to feel inappropriately hungry.* Cravings for sweet, fatty or salty foods indicate an imbalance in your body, rather than genuine hunger.

You are only likely to follow the diet recommended in *Grow Youthful* for the rest of your life if you find it totally satisfying and enjoyable. Food is one of the great pleasures in this world, and I am certainly not asking you to forgo it. A healthy diet is absolutely delicious, especially after you have recovered from the sugar-salt-fat excesses of the standard American diet.

- The thinner you are, the healthier and longer-lived you will be, provided your slim body is not caused by smoking or illness.⁴¹
- If you have a lean body, do not be too smug. What is important is that your weight today is close to your weight when you were 20 years old. If you are several kilos more today than you were at the age of 20,

your risk of degenerative diseases and ageing is higher even though your weight seems reasonable.

- Where you have put on weight is also important – if your gut is fatter today than at the age of 20, you are more at risk than if the fat is around your thighs and hips.⁴¹
- *Middle-aged spread is not inevitable.* You can keep the same body shape throughout your life.

WE ARE ENCOURAGED TO OVEREAT

Western (particularly North American) society encourages overeating. The food industries spend billions of dollars each year to entice and mislead us. The most obvious example is in the advertising of fast food and soft drinks. We see healthy, beautiful, slim, energetic and life-filled young people enjoying these products. The truth is that never touching processed foods and soft drinks is the best thing that you can do for your health. Other industries also encourage us to eat more – dairy, potato, egg, beef, fruit juice and sweets all have their message.

Value is emphasised. Larger portions and servings or free extras are a clever marketing ploy, but completely inappropriate for food where it is quality rather than quantity that matters.

Restaurant portions are often excessively large – it is not uncommon to be served a meal totalling 1,500 calories – sufficient energy for an entire day. All-you-can-eat restaurants and buffets give a sense of bountiful food and massive choice, encouraging you to take larger portions and eat far more than you would otherwise.

There is a hidden side to commercial food production that is very active. More than sight and sound are used to entice us – your taste and smell are open to manipulation too. Today, it is possible to create virtually any flavour or smell in the laboratory. Exotic and enticing chemical tangs and aromas are added to processed foods at a lower cost than the real ingredients – so chemicals are widely used. The sugar and refined salt content of most processed foods are raised to make them more addictive.

²⁴⁵ These false foods are available everywhere in our cities – gas stations, sports and entertainment venues, corner and department stores.

WHY DOES CALORIE RESTRICTION WORK?

Most conventional dieticians recommend that a moderately active woman consume around 1800-2000 calories per day and a similar man 2300-2500 calories per day. While this level of calories is unlikely to lead to obesity, it will encompass a normal level of ageing and sickness. Reducing these daily calorie levels by 40% to 1200 for women and 1500 for men will open your life to a new era of top quality food, health and longevity.

Calorie restriction leads to a total improvement in your health and vitality, with all organs benefiting, especially your pancreas, heart, kidneys and brain. Blood glucose, insulin and lipid levels are normalised, reducing all kinds of autoimmune diseases, especially heart disease and diabetes.

Calorie restriction improves your health and longevity by:

- Lowering your blood glucose level. This leads to reduced levels of advanced glycosylated end products. AGEs are sugary, inflammatory build-ups near the surface of arteries and capillaries, leading to heart and kidney disease, blindness and impotence.
- Lowering your blood insulin level. Insulin is secreted in response to glucose, primarily from carbohydrates. The damage caused by excess insulin is discussed on page 225.
- Producing less toxic waste as a by-product of food digestion.
- Reducing free radicals. 90% of the free radicals in your body come from the food that you eat (page 113).
- Improving your metabolism. After a few weeks on reduced calories, your metabolism becomes more efficient. Your body temperature and blood pressure are both lower.
- Preserving, and possibly even lengthening the telomeres at the ends of your chromosomes. Conversely, research shows that sugary drinks are associated with shortened telomeres.⁴⁰³

Calorie restriction requires a high level of discipline, and for most people is not a particularly pleasant way of living for the rest of your life. It can also make you thin, frail and more vulnerable to some diseases. What if there are ways to get the benefits of calorie restriction without these difficulties? *Well there are easier ways to get the benefits!* Fasting and the easy alternatives are discussed on page 247.

HOW TO AVOID OVEREATING

Most people in the Western world suffer from malnutrition. It seems hard to believe. Your first thought might be just the opposite – most people are overweight. They seem to be suffering from anything but malnourishment in this world of plenty. How is it possible?

The modern Western diet provides excessive calories, but little nutrition. Processed foods sometimes taste good, but only fresh natural foods nourish our bodies. Most Westerners' bodies are crying out for nourishing, living food. The more refined and processed a food is, the less nutrition it provides. Starved of real nutrition, their body's instinct is to eat more. If you eat mostly sweet or processed food, you are likely to be continually hungry.

This may seem to be a daunting task, but it is not. A handful of fresh berries with thick cream is just as quick as a bowl of packaged breakfast cereal with pasteurised milk; a boiled egg with avocado is no more trouble than a hamburger; a banana is as easy as a packet of potato crisps. It is just a matter of habit.

- The most effective thing you can do to reduce your hunger is convert from sugars, grains and processed food to nutrient-dense living food.
- According to Ayurvedic tradition, there are six basic tastes: sweet, salt, sour, bitter, pungent and astringent. The standard American diet is high in sugar and salt, but low in the other flavours. After you have a meal with a balance of all the tastes, you are less likely to feel (inappropriately) hungry.
- Slow down, fully appreciate, enjoy. This may mean changing a lifetime eating habit. Chew slowly and thoroughly and fully sense your

food (page 56). Your body will feed back a lot of information, including whether the food you are eating is nourishing or not. The feeling of satiety or fullness will be clearer. You may not even like what you are eating if you pay attention!

- It takes about 20 minutes for the stomach-is-full signal to reach the brain. If you are eating rapidly, which most overweight people do, you can consume a lot of food after your stomach is full and before you feel satiated. Slow down.
- Have a starter 15 minutes before the main meal. It will make you less likely to overeat during the main meal.
- Have some protein with every meal. Protein makes you feel full. Protein will maintain your blood glucose level at a more stable level, reducing the likelihood of hunger pangs.
- Some people overeat because of their psychological needs, not because they are hungry. They consume large quantities of bad calories for emotional reasons. Cakes, sweets, potato crisps or fries and other high-carbohydrate foods eaten daily are a serious problem. Food provides an anaesthetic against emotional pain; it can be a substitute for love; it fills an inner emptiness from a lack of connection to others; and it soothes anxiety. The chapter LIVING THE LIFE YOU LOVE discusses loving yourself and finding fulfilment from within rather than outside yourself (do not worry – you will become a more attractive human being!)
- Drink a glass of water half an hour before your meal. Frequently you are not hungry – rather you are thirsty. Thirty minutes gives enough time for it to be absorbed into your blood, and then back again into your stomach as digestive juices, improving your digestion.
- It is OK to say no. You do not have to eat something just because it is put in front of you. Be honest with other people about what you really want, and they will be more likely to help you.
- Minimise temptation by not having addictive foods in your house. I find that if I have ice cream or black chocolate in the kitchen, I simply cannot leave them alone. However, I always have a supply of fresh raw vegetables, olives, a couple of fruits and raw tree nuts.

- Reduce the proportion of refined carbohydrates and sugars in your diet will make a dramatic difference to your calorie intake. Stay away from all sweet foods, and foods made with grains (except for small quantities of rice). If you eat a high GI food (page 224), eat it in moderation, and as part of a mixed meal. Eating low GI foods helps your blood glucose level to remain stable so you do not have hunger pangs during the day.

EATING TIPS - HOW AND WHEN

CHEWING

Some people are fast eaters, and others are slow eaters. From a health point of view, the leisurely eaters win outright. Chew your food slowly and thoroughly – ideally 25 to 50 times per mouthful. Yes, I can hear some people saying “that’s ridiculous”, but the more you chew your food and the slower you eat, the easier it is to digest. Plenty of chewing breaks your food into smaller particles, and mixes it with more saliva for a longer period, making it more digestible. Most people have damaged digestive systems, and eating slowly helps immensely.

Chewing your food slowly particularly applies to carbohydrates and starches. Your saliva contains the alkaline enzyme ptyalin, which starts digesting starchy carbohydrates while they are still in your mouth. If you eat starchy foods without chewing them until they are virtually liquid, you may suffer from poor digestion and flatulence.

Chewing your food exercises your jaw muscles, maintaining the youthful structure of your face. The masseter is one of the strongest muscles in the body and needs regular exercise.

If you chew your food thoroughly, your digestion is dramatically improved. Your digestive system is able to extract more of the nutrients and energy in the food you eat, so you can reduce the amount of food you eat with no feeling of hunger, or loss of energy or nutrition.

FOOD COMBINATIONS

You can assist your digestion by eating meals with ingredients that are compatible with each other. Proteins do not combine well with carbohydrates because the starches in carbohydrates need an alkaline environment for their digestion, in contrast to proteins, which need acid.

Carbohydrate foods are best eaten combined with vegetables and fats. Carbohydrates include all grain, starch and sugar-based products. The digestion of carbohydrates starts in your mouth, and then continues in your stomach and small intestine.

Protein digestion needs concentrated digestive juices and strong acid in the stomach, before completing in the small intestine. It is best to eat proteins at the beginning of a meal, before your digestive juices are diluted with other foods. Eat concentrated protein foods like meat, eggs, dairy and fish with fats and non-starchy vegetables.

Fruit, and particularly melons, are rapidly digested, usually in less than 30 minutes. The best way to eat most fruits is separate from main meals. In particular, citrus fruits do not digest well with grains.

A few fruits do not ferment as quickly, such as bananas, dates, dried fruit, apples and coconut. They take 45-60 minutes before passing through your stomach. You can combine these fruits with fats and complex carbohydrates like rice or tapioca, or mix them with your muesli.

Milk – drink it on its own, or leave it alone. It curdles immediately it enters your stomach. If there is any other food present the curds coagulate around the other food particles and insulate them from your gastric juices, delaying digestion. Eating meat and milk together imposes a digestive conflict on the stomach, and was even forbidden in the bible. Fermented dairy products like kefir, yogurt and cheeses are more digestible when combined with other foods.

Acids inhibit starch digestion. For example, bread digests poorly with vinegar or wine.

Sugar inhibits the action of the alkaline enzyme ptyalin, which breaks down starches. Try not to consume any sugar products with starches. Bread with honey or jam, sweetened rice, waffles with syrup, cakes, pastries and most desserts are difficult to digest. Unfortunately virtually all processed foods are sweetened.

SIMPLE MEALS

For optimum digestion, eat simple meals with just a few components.⁷ If you have a severely damaged digestive system this is the best way to eat while healing. Modern Western diets have far too many components. Meals often consist of more than one course, and each course comprises several different kinds of food.

Go back to our Paleolithic ancestors. Most meals would have consisted of vegetables or fruit they had gathered during the day. If they killed an animal they would eat it soon after. They would seldom have consumed many different types of meats, dairy, eggs and fruits together. The way we eat a formal meal today, with a starter, a main course and a sweet is excessive!

PEACEFUL EATING

Eat your food peacefully, sitting down comfortably, with no stressful distractions such as TV, phone calls or business meetings. The ideal is to sit down by yourself or with friends and give all your attention to the enjoyment of your food. You need time to properly chew and fully taste each mouthful. Eating is a conscious action.

If you are relaxed and thoughtful as you eat, your digestive system will concentrate on the considerable task of extracting the maximum value from the food you are consuming, not diverted by stress enzymes.

Do not eat if you are tired, stressed, angry, excited, overheated, chilled, in pain, or have a high fever. Strong emotions generate hormones in your blood, and redirect enzyme components from your digestive system to produce them. Physical activity and strong emotions tend to shut down your digestive system.

TEMPERATURE

Avoid extremes of hot and cold in both food and drink. They are unnatural – no animal consumes boiling or freezing foods. Excessively hot food or drink burns the tender lining of your mouth and throat.

Depending on the season and your preferences, hot (but not scalding) food and drink may be warming, comforting and appropriate. However, consider how often you have a hot cup of tea or coffee, or a hot meal purely out of habit.

Iced drinks halt the digestive process by constricting the ducts that secrete gastric juices into your stomach, and by cooling your stomach below the optimum temperature for digestion. Slamming down a can of iced soft drink after a hard game of sport is positively damaging to your digestive system.

I normally drink warm water. It is most unfortunate that our society is in the habit of drinking iced water, and that is what you are served in a restaurant or bar.

MAIN MEAL OF THE DAY

Most mornings I wake up around sunrise, and drink a glass of warm water on rising. If I go to the gym to do weights, I have to have some breakfast before otherwise I feel a bit weak and light-headed. Since eating protein before going to the gym, I have been able to put on muscle bulk. If I go for a morning walk or swim I need some breakfast after getting back.

A study²³¹ has found that we are likely to feel the most satisfied from food eaten in the morning, and that this satisfaction grows progressively weaker throughout the day. This means it is good to eat a big breakfast, because it will give you a feeling of satiation (feeling full) for a larger part of the day. If you under-eat during the first part of your day then you are likely to more than make up the calories during the latter part of the day.

If you want to lose weight or even just to hold steady, the study shows that it may be best to eat your largest meal in the morning, followed by a midsize lunch, and a small dinner.

Another study ²³² found that obese people who ate a large 600-calorie breakfast with healthy protein and carbohydrates lost significantly more weight than those who ate only half as much breakfast. The researchers speculated that eating a large balanced meal in the morning keeps blood sugar levels steady during the day, keeping food cravings at bay.

A traditional breakfast is a substantial meal – eggs, fish, meat of some sort, mushrooms, vegetables cooked in butter or another saturated fat.

It is best to wait at least 30 minutes after getting up before eating breakfast. Your digestive system needs time to activate after its overnight fast.

Allow four hours between meals for complete digestion.

It is also acceptable to eat your largest meal in the middle of the day. Remember, after your main meal you need time to rest and digest. Your own schedule will determine which meal is your main one. If it has to be in the evening, ensure it is completed no less than four hours before you go to sleep.

Ketogenic breakfast. Ketogenic fasting is discussed on page 251. Paul and Shou-Ching Jaminet ²⁰⁷ propose having a ketogenic breakfast every day. This means a breakfast without carbs or protein, but with as much fat and fibre as you want. For example, spinach or mushrooms in butter, and thick cream with coffee.

If you finish dinner at 7pm, have a ketogenic breakfast the next morning, and then lunch at midday, this means you have had a 17-hour ketogenic fast. The Jaminets suggest that 16 hours is long enough to trigger autophagy, the self-removal of older or damaged cells. As long as you get some protein and a little carbohydrate at lunch or dinner, this is a healthy and rejuvenating meal regime.

SNACKING

Every part of your body needs regular rest – and sometimes a holiday. The same applies to your digestive system. It is not meant to be under a constant digestive load. Try to let each meal digest completely before you

start the next. Digestion uses energy, and the enzymes involved draw on the rest of your body. Let your glands rest and rejuvenate between meals. Snacking between meals and eating late at night deprives your body of the time it needs for detoxification, repair and growth – which occur primarily while you are sleeping.

Thin people who are physically active may sometimes need a snack, but generally, hunger pangs and sugar cravings are a symptom of metabolic syndrome (page 225) and [sugar addiction](#).²⁴⁵ If your digestive system is healthy and you are eating a nutritious balance of (mostly) fats, complex carbohydrates and proteins, you should not feel hungry between meals.

Some people choose to have smaller meals and eat more frequently, usually those who are vegetarian, eat a high-carbohydrate diet or have a problematic digestive system. However, a constant digestive load and continually raised blood glucose level (which raises insulin) will harm your health and shorten your life.

One of the most effective techniques to improve your health and extend your life is carbohydrate concentration, discussed on page 250. With CC, you have all your carbohydrates for the day in only one meal and other meals do not have carbs. Snacking, especially of carbohydrate foods, is almost the opposite of CC.

DRINKING WITH MEALS

There are two schools of thought on drinking with food. The first says that that drinks dilute your stomach acid and digestive enzymes, weakening your digestion. They advise to avoid drinking up to half an hour before a meal, and at least an hour afterwards.

The other school recommends drinking with your meals. All aspects of digestion need plenty of water; you would have to drink a LOT of water before your digestion is diluted and weakened.

I tend towards drinking a little with my meals. It is worth experimenting and discovering what works best for you. If you drink wine or beer, a glass with a meal is acceptable. Wine and beer are acidic so they assist the

digestion of proteins. There is an element of good sense behind the traditional accompaniment of wine with proteins such as meat, poultry, fish, eggs and cheese. However, avoid wine with a starchy carbohydrate meal.

FOOD PREPARED WITH LOVE

It is a damning indictment of food manufacturers, the supermarkets, and their unconscious consumers that soft drinks - full of sugar and laced with phosphoric acid - are the number one selling item in supermarkets.

Many people do not even know what real food is – where it comes

from, and what it tastes like. Look at a supermarket, a bakery, a canteen, any TV advertisement, or even a hospital's kitchen. You will see food in packets, made with refined ingredients, polyunsaturated vegetable oils, sugar, and contaminated with a variety of manufactured chemicals. They are made with the cheapest of ingredients with the objectives of looking good, lasting a long time, and appealing to the sweet and jaded taste buds of a malnourished population.

The continued use of technologies such as herbicides, pesticides, refining, shelf life extension and irradiation separate us from nature and the living food it produces. Real food nourishes our bodies and souls at every level.

Yes, good food does take more time and energy to prepare. The daily use of fast foods is laziness posing as convenience. It seems that cost, convenience and reliability are more important than caring for our bodies. Ready-to-eat food in boxes, packets, tins and frozen microwave meals will only take a year or two to manifest in the diseases, depressions and aggression that plague our society.

Real food takes time and love to prepare. The richest countries in the world have malnourished populations. In any city, the richest citizens do not necessarily eat the best.

The most nourishing ingredients are those grown in your own back garden, or on a nearby organic farm where you personally know and trust the farmer. For those living in cities, organic fruit and vegetable shops and farmer's markets are rapidly growing. Ask around to find where farmers come into the city once or twice a week, and sell direct from the side of their truck.

The time you spend preparing food is a measure of the love you have for yourself and others, bringing nourishment and sustenance. Fresh, attractive, varied, in season and balanced dishes are a delicious expression of your love.

Food is enhanced by being shared. A meal prepared with care and love, and relished with family and friends is one of life's pleasures. Amidst conversation and laughter, all food is healthy food. What you believe about your food or a particular diet will make it work or fail. If you thoroughly enjoy a meal, and feel nourished by the food, then that is what you will experience. Alternatively, if you have any negative feelings about the food you are eating, they will ultimately manifest in your body.

Consider a dish prepared by an exhausted, resentful, underpaid employee of an abusive, greedy and unethical fast food outlet located on a busy and accident-prone freeway intersection. Then consider exactly the same dish prepared specially for you by a trusted friend, as a welcome to his or her home. The friend is centred and peaceful, and the preparation is a generous and loving gift to you. I doubt that current scientific analysis could discern much difference between the two dishes if they used the same ingredients, but I know which one I would prefer to eat! Food is more than the sum of its nutrients – it takes on the energy of the place and the people that prepared it. Living food has a spiritual quality.

This is regardless of the fact that your friend may have sourced some of the ingredients from his organic back garden; that he would have washed them more carefully; and paid more attention whilst preparing them. There is more to it than the food being set in front of you on the table in an atmosphere of love and trust and generosity. *The food itself has a different energy.*

FOOD COMPONENTS

The best medicine for any disease is food. To prevent or treat any kind of ailment, first look at your diet.

MACRONUTRIENTS

Carbohydrates, proteins and fats are macronutrients. For good health, all three are required every day, and preferably every meal. Most foods already contain some combination of the three.

This section will show you that most people on a standard Western diet eat insufficient (good) fats, and sometimes protein. On the other hand, they consume dangerously high quantities of carbohydrates (especially refined carbohydrates and sugars), and toxic quantities of bad oils.

CARBOHYDRATE

Carbohydrates are sugars and starches.

Most of the world's population have a carbohydrate staple that provides the bulk of their calories and is the base for every meal. Rice is a staple throughout Asia, maize in Southern Africa and parts of South America, yams in parts of the tropics, wheat in Western Europe and North America, and rye in Northern Europe.

When anthropologists have studied hunter-gatherer societies, they find that these “primitive” people **always** prefer meat, and preferably fatty meat, as their primary food. *Widespread reliance on grains as a staple food has occurred because they are cheap, not because they are healthy.*

Palaeolithic people did not eat grains or legumes, so there is a strong argument that grains and legumes should not be part of the human diet (page 28).

For optimal health, all carbohydrates should provide a 20-35% of the calories in your diet.²⁰⁷

Simple carbohydrates

Simple carbohydrates are sugars – colourless, odourless, sweet and water-soluble. The most common sugars are:

- Glucose. Found in many foods, this is the simplest form of sugar, and the one that your body can use in limited quantities (up to about 500 calories per day²⁰⁷) for fuel. It does not taste very sweet.

When glucose is stored as fat in your body, it tends to be stored as subcutaneous fat.

- Fructose. Fruit sugar is found in most fruits and to a lesser extent in vegetables (particularly beets and carrots). Fructose has a low GI, but it is a [toxic, obesity-causing sugar](#). It is about twice as sweet as table sugar. Fructose bypasses your satiety (feel full) mechanism.

When fructose is stored as fat in your body, it tends to be stored as visceral fat.

The cells in your body can use most sugars as fuel or store them as fat. However, fructose can only be metabolised by your liver. Fructose is quite similar to another carbohydrate, alcohol, which can also only be metabolised by your liver. Both place a considerable toxic load on your liver.

Fructose is generally more reactive than glucose. It is significantly more likely to form AGEs than glucose, and easily reacts with polyunsaturated oils to form various toxins.^{219,310}

Fructose is added to many processed foods, and is especially high in supermarket fruit juices. In the USA, the cheapest form of sugar is high fructose corn syrup (HFCS). Fructose causes cirrhosis of the liver,³¹¹ raised blood triglycerides, copper deficiency³⁵³ and loss of other minerals, high insulin levels, insulin resistance.^{312,313} A high-fructose diet is a cause of obesity,^{126,47} diabetes, leptin resistance, cancers, heart disease, osteoporosis, anaemia, gout, kidney disease and many other ailments.

Fructose malabsorption is a common ailment caused by fructose and a number of related complex sugars. If you suffer from flatulence,

bloating, diarrhoea, indigestion and fatigue, going on a [low FODMAP diet](#) may solve these problems.

- Galactose is the basic form of milk sugar. Lactose is a galactose and a glucose molecule linked together.

Galactose is a sugar required for an infant's neural development, but is toxic to adults. A healthy Caucasian adult's liver can only break down about 10 grams of galactose per day, the equivalent of a glass of milk consumed over the whole day. Most of the excess galactose is converted to mucus. Long-term galactose overload leads to endless colds and mucus, liver degeneration and cirrhosis, cataracts, oedema, poor memory, dementia or senility. Long term consumption of galactose creates advanced glycation end products (AGEs) and speeds your ageing.^{407,408}

The main food sources of lactose are whey powder (70% lactose), milk powder (more than 50%), yogurts, ice creams and other products containing skim milk powder (5-25%), cows, goats and other fresh milk (4-5%). Milk powder is called "non-fat milk solids" on supermarket labels. It is added to many processed foods, including most milk chocolate and many "low-fat" products.

Surprisingly, galactose is also found in some non-dairy sources, such as dried figs (4% galactose), honey (3%), celery, beetroot and grapes (less than 1%).

Butter is safe, it has less than a quarter of 1% galactose, and ghee has virtually none.

Dairy products have a low glycemic index (GI), so you might be excused for thinking they keep you slim and healthy. However, high lactose "sweet" dairy products such as milk, yogurt and ice cream, milk powder (i.e. milk solids which are used in many foods) and low-fat dairy products all have a dreadful effect on your blood insulin level. You are unlikely to lose weight or stay healthy and youthful on them. See page 150.

- Maltose (produced by sprouting grains) is two glucose molecules linked together. It is mostly used for brewing beer.

- Sucrose (table sugar). Made from sugar cane or sugar beet, it consists of a glucose and a fructose molecule linked together. Unripe fruit is high in sucrose, whereas ripe fruit is high in fructose.

Complex carbohydrates

Complex carbohydrates make up a large part of the roots, shoots, leaves, fruits and seeds of plants. They consist of a mixture of starch, sugars and fibres. Starch digests into glucose, rather than fructose or other sugars. The bacteria in your gut convert indigestible starches and some fibre to highly beneficial short-chain fatty acids (formic acid, propionic acid, acetic acid and butyric acid), and the remainder are excreted largely unchanged.

Examples of unrefined carbohydrate foods include starchy vegetables (potatoes, sweet potatoes, sago, taro, cassava, tapioca), sweet vegetables (carrots, beets), fruits, nuts, whole-grains and beans. To get 20-35% of your calories as carbohydrates, an adult needs to eat about 450 gm (1 lb) per day of starchy vegetables, plus the same weight of fruit and high sugar vegetables (carrots, beets).²⁰⁷ You can eat as much as you want of low sugar vegetables like leafy greens and celery stalks.

Refined carbohydrates

Refined carbohydrates are mostly made from grain-based flours and sugars, and include breads, cakes, biscuits, pasta, noodles, breakfast cereals, soft drinks, syrups, jams, fruit juices, all sugars and sweets.

In nature, carbohydrates come packaged with minerals, vitamins, fats, proteins, fibres and enzymes that ensure their slow digestion and use. The more refined and processed a carbohydrate, the less micronutrients you get. Sugars and refined carbohydrates also digest too quickly, spiking your blood with glucose, causing wild swings in your hormones, and leading to diabetes. Sugars also promote the growth of fungi, an endemic problem responsible for many diseases today (page 263).

Refined carbohydrates such as sugars, flour and especially fructose, are the cause of obesity. The direct connection between soft drinks, bread, pasta, noodles, biscuits, cakes and fruit juice with high blood glucose

levels means that carbohydrates play an important role in the development of diabetes, one of the fastest-growing diseases in the Western world (page 224). In North America, diabetes increased by 40% in the 20 years up to the turn of the century, and this explosion is expected to continue or even increase around the world. Your blood glucose level has a strong link to the development of cardiovascular and many other degenerative diseases, and your rate of ageing.

A high sugar, high starch, refined carbohydrate diet puts your blood glucose level on a roller coaster, and this causes other hormones to fluctuate (page 224). The result is a cycle of craving for sugars, stimulation, excitement and exhilaration – followed by a depletion of energy, stress, tiredness, apathy and depression.

Fibre

Our Palaeolithic ancestors consumed around 100 grams of fibre per day – compared to about 15 grams per day on a modern diet. *Note that their fibre was not from cereals, as it is now.* Instead, all their fibre came from roots, tubers, vegetables, wild fruits, nuts, herbs and shoots.

On page 274 I explain how the average adult has around 2kg of bacteria in their body. These bacteria are essential for good health. Most are located in the digestive tract, particularly in the lower (large) intestine, and they feed on the indigestible fibre in our food. The amount of fibre you eat determines how much bacteria lives in your gut, and the type of fibre determines which species of bacteria flourish. The composition of your gut biome rapidly responds to your diet, within hours or days.

In April 2010 researchers in Australia¹⁵⁶ showed that having insufficient beneficial bacteria due to lack of certain dietary fibres may be responsible for the high level of inflammatory diseases that we suffer today (asthma, arthritis, inflammatory bowel disease, skin inflammations etc.)

A by-product of this bacterial digestion of fibre is the production of short-chain fatty acids such as butyric acid (butyrate). These short-chain fatty acids have numerous benefits, giving you more energy, better digestion, a slimmer body and reduced appetite, healing all sorts of digestive problems, improving brain and nerve function, and protecting against

heart disease and diabetes. Butyric acid is a miracle nutrient, discussed on page 321.

You can encourage the production of butyrate-producing bacteria in your gut by eating foods that contain “resistant starch”. Your small intestine is unable to absorb resistant starch so it continues to the colon where it provides food (prebiotics) for some bacteria that convert the RS into butyrate.

When starchy foods like potato, sago, taro, cassava, tapioca, rice and sweet potato are cooked then allowed to cool again, resistant starch (RS) is formed. Raw potato and green bananas are rich in RS even before cooking. Flour made from potato, banana, tapioca/sago and cassava are all rich in RS, with flour made from raw potato probably being the richest source of all. Cellulose-rich vegetables like pumpkin, zucchini, squash, celery and bok choy also generate lots of butyrate. Tree nuts such as almonds are another good source, as are bananas and plantains.

Many legumes and grains can produce RS. However, throughout this book it is clear that you should try to avoid legumes and grains. Don’t worry, you can easily get sufficient RS from other foods in your diet.

Another advantage of RS is that many pathogenic bacteria are attracted to and bind to RS. They are then excreted.³⁹⁸ RS is a good treatment for food poisoning and harmful bacterial overgrowths such as SIBO (small intestinal bacterial overgrowth). There is some sense behind the traditional remedy of just potato, rice or taro to recover from food poisoning.

The use of antibiotics (page 274) puts the production of these short-chain fatty acids at risk. A single course of antibiotics can destroy a large portion of your gut bacteria. It takes at least six months to recover, and many people never recover.

Too much fibre

However, it is possible to have too much fibre and bacteria in your digestive tract.

Large quantities of fibre are harmful, particularly fibre from grains, seeds and legumes. This type of fibre contains excessive roughage that can injure the intestinal wall. Endotoxins produced by bacteria from these “new” foods cause inflammation of the gut in addition to the other problems caused by grains and legumes. Grain fibre also binds to some minerals, so they pass through your body rather than being absorbed.

An excessive level of bacteria in the gut can trigger an immune response. If you have IBS, a leaky gut, or other problems associated with inflammation of the digestive tract, a smaller bacterial population will help considerably.

I would never supplement with fibre, particularly fibre from grains. Wheat bran for example, is toxic, rough on the digestive tract and may encourage the wrong type of bacteria in your colon.

Glyconutrients

In spite of my constant warnings to eliminate sugar from your diet, there are eight essential sugars that your body must have for good health. There may also be other sugars, though research has not shown their beneficial effects so clearly. When your body is young and healthy, it is able to make some of these sugars from glucose. However, a diet that is rich in these sugars has been proven to result in excellent health, longevity and self-healing ability^{111,112}.

These glyconutrients are found in vine-ripened or tree-ripened fruits, berries and vegetables grown and harvested in your own garden or freshly purchased from farmers’ markets. Their content decreases with processing and storage. In other words, the living food diet recommended in *Grow Youthful* will maximise your glyconutrient intake.

Glyconutrients are essential for the healthy operation of your body’s cells. With the widespread use of processed food, the average person no longer gets sufficient glyconutrients. The result is that many normal body functions are compromised, including the immune system, cell regeneration, and energy production.

The eight sugars are glucose, mannose, xylose, galactose, fucose, N-acetylneuraminic acid or sialic acid, N-acetylglucosamine, and N-acetyl-galactosamine. You do not need to supplement glucose or galactose – most people get too much. Most people probably need to concentrate on getting sufficient mannose. The best source of mannose is aloe vera, other sources include shiitake mushrooms, cordyceps sinensis, kelp and fenugreek. Berries are an important source of most of the eight, as is aloe vera. Other sources of some of the glyconutrients include kelp and wakame seaweed, kefir, raw honey, egg yolks, gelatine and fresh coconuts. If you make a vegetable / fruit juice every day with your juicer, and use a variety of ripe-picked and fresh produce along with a piece of aloe vera, you will get most of these essential sugars.

A rich source of N-acetylglucosamine and N-acetyl-galactosamine is cartilage and bones (see bone stock, page 102). If you are a vegetarian, shiitake mushrooms are an alternative source.

Glyconutrient supplements are available, often through multi-level marketing organisations that claim to heal many nervous disorders including fibromyalgia and multiple sclerosis. However, they are very expensive. If you eat, almost every day, a handful of berries, a piece of aloe vera, a pinch of ground fenugreek, a little shiitake/medicinal mushroom or a pinch of their powder, some seaweed, and a cup of a stock as described above, you will boost your health, energy and disease resistance quite noticeably.

PROTEIN

What is protein?

Your body is made from at least ten thousand different proteins. After water, most of your body weight is protein. Your skin and hair are mostly protein, as are your blood, enzymes, muscles, veins and arteries, and other organs.

Proteins are large complex molecules made from amino acids. A constant supply of amino acids is required to construct proteins to build, repair and maintain your body. When you eat proteins, they are broken down into

amino acids, which your body then uses to build its own proteins. For this reason, you need to eat proteins every day.

Proteins are made from a pool of 22 amino acids. Your body can make thirteen of them. You get some of the missing essential amino acids from bacterial sources in your lower digestive tract, or from the cells that constantly slough off its lining. You have to get the remainder from your food. If you do not get sufficient of these nine essential amino acids, your body will consume your muscles to obtain them. Deficiency of essential amino acids is a surprisingly common problem, because people eat cooked, poor quality proteins and have damaged digestive systems.

Protein is an inefficient fuel source. 60-70% of energy in the protein you eat is used to fuel its own digestion. This may be one reason why high protein weight-loss diets, such as the Atkins²⁴ and Montignac²⁵ diets, are effective – they are simply an inefficient use of food energy. Another reason is that protein makes you feel full (satiated).

Protein is a complex, dirty fuel. Digesting protein releases various toxic by-products that put a load on your kidneys and liver. In contrast, carbohydrates and fats are clean-burning, leaving only water and carbon dioxide.

Types of dietary protein

Animal proteins are complete proteins. Meat, fish, poultry, eggs and dairy products contain proteins made from all 22 amino acids. To get the nine essential amino acids that your body is not able to make, you have to eat complete proteins, or a sufficient variety of incomplete proteins. That is why it is particularly important for vegetarians to eat a variety of protein sources, such as tree nuts, dairy, eggs, rice and vegetables.

The most concentrated sources of protein include meat, fish, eggs and dairy products. Less concentrated sources include beans, lentils, nuts and seeds. Even smaller quantities of proteins are found in grains, and many vegetables and fruits.

Plant proteins are the simplest proteins, some even occurring as amino acids.

Few if any people thrive on a vegan (no animal products) diet. Most feel drained or weak without occasional eggs, fish or meat. Many vegetarians find they need a small amount of meat every week to maintain their colour, strength and energy.

If you rely only on nuts, legumes and seeds for your protein, you may suffer an amino acid imbalance such as high levels of arginine and low levels of lysine.

Plants contain a variety of protective toxins, and regular use of any particular plants leads to a variety of diseases from the cumulative effect of those toxins.²⁰⁷

Plant protein sources:

- Mushrooms are a delicious source of protein, also rich in trace minerals and vitamins. They can protect against heart disease and enhance your immune system. Avoid raw mushrooms – they contain toxins which cooking breaks down.
- Seeds / grains that have been soaked or fermented, and then properly cooked. Sunflower, sesame, amaranth, buckwheat, flax and pumpkin seeds are acceptable in small quantities for some people. Grains (and especially cereals) should be avoided (page158).

Gluten is a grain protein. The highest levels occur in wheat, but it is also found in other grains such as rye, barley and oats. It is popular in Chinese cooking, and called seitan in Japan. Pieces of it are fried and sold as mock duck or abalone. Most people react badly to gluten. One study showed that 83% of people have an inflammatory reaction to gluten in their colon, even though they showed no outward signs.³⁶⁵ Gluten damages the lining of the gut, and causes intestinal mal-absorption resulting in diarrhoea, hypocalcemia, severe inflammation / bleeding, or malnutrition. If the immune response is so strong that the antibodies attack not only the gluten but also the body's own cells in the intestine, thyroid, pancreas and elsewhere, then this is called [celiac disease](#). Gluten is also associated with cancer, many neuropathies, and heart disease.¹³⁷

- Tree nuts such as macadamia, almonds, brazils, hazels, pecans and walnuts that have been soaked overnight. Eat one or two each day, to get proteins, vitamins, minerals and numerous other nutrients.
- Soaked and properly cooked legumes. Not generally recommended (page 28).
- Soybeans are a source of incomplete protein. Soy products include tofu, tempeh, miso, soymilk and tamari. Soy is toxic (page 165).

Animal proteins are complex, complete proteins, an excellent source of nutrition. Usually they are easy to digest. They include meat, raw or fermented dairy products, eggs, fish, birds and some insects.

Protein powders. Avoid milk, whey, soy, casein and egg white powders. Isolated protein powders are sold in health food stores and used as body building products or in weight-loss diets. They are usually processed at high temperatures, and the proteins are denatured to the point where they are toxic. They can contain nitrates and other carcinogens.⁸⁴ Whey and milk powders are high in harmful lactose and galactose (page 64).

How much protein do you need?

The Australian recommended daily intake (RDI) for protein is 0.8 gram of protein per day for each kilogram that you weigh. Remember, this is the actual weight of protein that you need, not the weight of the food. Meat and fish average 25-30% protein, so to get 50 grams of protein you would have to eat 150-200 grams of flesh.

The RDI is too high for optimum longevity, especially if you are not doing a lot of exercise. Plenty of research shows that a high-protein diet shortens your lifespan and makes you sick.^{18,137,215,216,217,218}

Excessive protein puts the body in “growth and reproduction mode.” When food is abundant, our bodies see this as a time of plenty and an opportunity to reproduce. This is a time of cellular growth and proliferation. On the other hand, if foods (and protein) are scarce, the body goes into a “maintenance mode” of cellular repair, regeneration and enhanced mitochondrial function, where it waits for a time of plenty in

the future.²⁵⁷ The maintenance mode causes slower ageing and better health in adults.

Researchers Paul and Shou-Ching Jaminet²⁰⁷ argue that 15% of your calories should come from protein. This is close to the 16% that most Americans already eat. If they can afford it, most people seem to gravitate towards this amount of protein. When in need, protein foods are delicious. In excess, protein foods are bland and unattractive.

However, Luigi Fontana¹⁸ says that for optimal health and longevity we should aim to restrict protein consumption to 10% of calories, or 0.8 gm. per kg of body weight.

You may need a little more protein if:

- you are significantly overweight. You need it to build-up your muscle again, important for weight reduction, especially if you are on a carbohydrate-restricted diet. Protein also plays a part in hunger control.
- you do a lot of physical exercise every day.
- you are trying to gain muscle bulk.

Too much protein. If your body gets more protein than it needs, it will convert the excess to glucose. Excessive protein in your diet will slow or stop the process of ketosis, sabotaging the near-ketogenic diet that is essential for health and longevity (page 251).

Protein digestion produces nitrogen as a by-product, mostly in the form of (toxic) ammonia. Your kidneys can only convert the ammonia from about 230 grams of protein per day to urea or uric acid.²¹⁰ Long-term high-protein diets may result in liver and kidney disease, rapid ageing, and damage to your immune system resulting in allergy and autoimmune problems.¹⁸

Too little protein. Some people in the Western world don't get enough protein because of:

- Poor digestion. Many adults have a damaged digestive system that does not effectively extract the amino acids from the proteins they eat.
- Ageing. As people get older, they tend to eat less protein every day, whilst at the same time their digestive systems are becoming less efficient.
- Junk food. Those eating a high proportion of processed food suffer a lack of protein (and virtually every other nutrient).
- Being a vegetarian, or especially by being a vegan.

Early signs of protein deficiency include the slow healing of wounds, and the slow growth of hair and nails. If you eat insufficient protein, you will be malnourished, have low muscle bulk, and have weak immune, digestive and glandular systems. All organs will be impaired, especially the kidneys. The weak immune system raises the risk of various infections. Digestive problems are likely, including a leaky gut. Your skin will look sallow and aged. In children, growth is stunted and brain development is hindered.

Increasing the amount of protein in your diet often improves your digestion. This is especially the case if you are not getting enough of the nine essential amino acids that can only be obtained from your food.

SOURCES OF PROTEIN

% protein by weight for selected foods

Spirulina seaweed (dry)	57	Brazil nuts	14
Pumpkin seeds (pepitas, dry)	33	Egg	13
Beef (roasted, fat trimmed)	32	Cottage cheese	12
Salmon (fresh, cooked)	27	Miso	12
Pork	26	Barley, pearl, raw, dry	10
Chicken / Turkey (roasted)	26	Bread (whole-wheat)	10
Cheddar cheese	25	Beans (cooked) black or kidney	9
Fish (average, cooked)	25	Lentils (cooked)	9
Peanut butter	25	Bread (white/Vienna)	8
Sardine (canned)	25	Hommos	8
Peanuts	24	Macadamia nuts	8
Lamb (broiled, fat trimmed)	22	Tofu	8
Almonds	21	Pasta (cooked)	5
Salmon (canned)	20	Cereal (rice crispy)	5
Sunflower seeds (dry)	19	Alfalfa seeds, sprouted, raw	4
Soya beans, cooked	17	Ice cream vanilla	4
Tahini (sesame seed paste)	17	Milk shake thick vanilla	4
Walnuts	15	Yogurt	4
Hamburger meat (fast food)	14	Broccoli (raw)	3

Corn (sweet, yellow, cooked)	3	Banana	1
Milk (cow's)	3	Orange (raw)	0.9
Rice, brown cooked	3	Butter	0.9
Soymilk	3	Mango	0.5
Spinach (raw)	3	Apple (raw, with skin)	0.3
Mushrooms (cooked)	3	Oils (olive, or other vegetable)	0
Spinach (cooked)	3		
Potato (baked)	2		

Source: U.S. Dept. Agriculture, USDA Nutrient Database for Standard Reference, Release 18.

You need surprisingly little protein for good health and long life when:

- your digestive system is working efficiently
- you are living in a pristine environment
- you are relaxed, fulfilled and happy
- you are not exercising strenuously for hours every day

Protein is sensitive to **heat**, and cooking downgrades its quality. Wigmore maintains that your daily requirement of protein doubles if you eat cooked rather than raw proteins.⁷

Try not to cook proteins with sugar. I strongly recommend that you toss any sugar in your pantry into the bin (unless you are using it to make kombucha or water kefir). Sugar and proteins combine to form advanced glycosylated end products (AGEs). Cellular damage, rapid ageing, cataracts, poor skin and more are the outcome of the proteins binding with the sugar. Avoid Oriental recipes that include sugar, and browned foods such as baked custard, browned cheese toppings, crusty breads, biscuits, pastries and basted or crusted meats.

FAT

We all need fats

Fats taste good, improving and releasing the flavour of most foods. They also have a rich and smooth mouth feel, and can change the texture of food by crisping it. Most cooking cultures rely on fats for their personality – think of chocolate, full of cocoa butter, Indian foods with their spices fried in ghee, tropical Asian foods based around coconut oil, Mediterranean foods based on olive oil, French foods rich in butter and cream, and modern Western foods with so much that is deep-fried or fat-based.

Both animal and plant foods always come with fat and this is how we should consume them. Low-fat diets are a mistake. ^{66, 84, 116, 206, 207, 208, 209, 253, 254, 255, 256, 344, 394, 395, 396, 400}

Animal fats are rich in vitamins A, D, K-2, choline, inositol and other nutrients that are essential for good digestion, particularly of proteins. Low-fat milk and other low-fat processed foods can cause serious deficiencies of fat-soluble nutrients. Low-fat diets do not lower your risk of heart disease or cancer. ^{66, 235, 344, 400}

You need at least a tablespoon (20 ml) of a good oil with each meal. If you include the fats in the fish, meat, poultry, dairy, avocados, olives and nuts that you eat, then ***fats should provide an absolute minimum of a half of your calories, and up to two thirds of your calories.***

Humans evolved to use fat, and not sugar as their primary source of energy. The excess sugar in a modern western diet is so toxic that the body does all it can to get rid of it. It tries to get rid of any excess of blood glucose by using it as a fuel or storing it as glycogen or fat. The modern western diet prevents the body from using its preferred fuel source, ketones. See page 251.

According to Dr Brian Peskin, eating a sufficient amount of good fat actually stops the creation of fat in your body. Excess body fat is only generated in response to high levels of insulin.¹³² Plenty of other research shows that fats, especially saturated fats, are not the cause of obesity or other diseases for which they are blamed. ^{84, 116, 206, 207, 344, 394, 400}

The problem with our diets today is not the inclusion of fats, but the type of fats we consume. There are definitely good fats and bad fats. Good fats are highly nutritious and are essential for the proper functioning of your brain, heart, hormone production, membranes, nervous and immune and many other body systems. Good fats come from animals, cold-pressed olives and coconuts, fish, and to a limited extent, tree nuts. All traditional cultures (and early humans) have always prized animal fats. Bad fats, widely used in fast and processed foods, are manufactured from seeds/grains and legumes, and have never existed in nature.

Fats occur in both plants and animals. Plants store their oils in their seeds and nuts, and occasionally in their fruits such as in olives and avocados. Fats hold about twice as much energy as complex carbohydrates and natural sugars. They are also clean burning, releasing only carbon dioxide and water.

Your body cannot break down fats into glucose, in the same way it breaks down carbohydrates for their energy. ***Fats do not cause a rise in your blood glucose level after you eat them.*** Instead, your blood lipid (fat) level rises. Most of your cells prefer to use fats as an energy source, but some, such as brain cells, can only use glucose or ketones.

Fats help moderate the rises in blood glucose and insulin that occur after eating carbohydrates.

Fats make you feel full (especially Omega-3s) ¹³⁵.

Sweden rejects high-carb diets.

In October 2013, Sweden became the first nation to reject the old carbohydrate-based food pyramid in favour of a low-carbohydrate diet. After reviewing 16,000 studies, Sweden's Council on Health Technology Assessment concluded that high-carbohydrate diets are responsible for obesity and many of the other degenerative diseases listed in this book.

On the other hand, [low-carbohydrate high-fat diets](#) can be used to treat or prevent many chronic diseases including cardiovascular disease and high blood pressure, metabolic syndrome and diabetes, epilepsy, chronic fatigue syndrome and polycystic ovarian syndrome. See page 251.

Saturated fats

Animals, including people, store most of their fat in a saturated form. Saturated fatty acids (SFAs) are relatively stable and inactive. They tend to be solid at room temperature. Good sources of SFAs are meats, coconut oil and raw or fermented dairy products.

The conventional wisdom, supported by the pharmaceutical and food industries, is that a diet high in saturated fats causes high levels of cholesterol, heart and artery disease. However, many unbiased researchers such as Mary Enig^{84,116} and Uffe Ravnskov¹²⁷ have shown that it is polyunsaturated vegetable oils rather than SFAs that are responsible for the epidemic of heart disease today.^{206,207,253,254,255,256,344} This resonates with my own experience. For decades, I mistakenly followed a low-fat diet, taking particular care to avoid saturated fats. I suffered high LDL cholesterol levels, a stressed outlook on life, and looked older than my age. Since re-introducing SFAs into my diet my cholesterol ratio has gone down to an unusually low level, and my health and feeling of wellbeing have dramatically improved.

For decades, the processed food and pharmaceutical industries have pushed the message that high **cholesterol** in our food is the culprit in heart disease. However, low cholesterol (low-fat) diets do not reduce heart disease, just the opposite.^{66, 127, 206, 253, 254, 255, 256, 344, 394, 395} If you eat less cholesterol, your liver simply produces more of this essential nutrient. Conversely, when you eat lots of cholesterol, your liver compensates by producing less.

Cholesterol is used to repair arteries. Low-density lipoproteins (LDL) carry cholesterol from the liver to the site of inflammation or damage on the artery walls. After repair, high-density lipoproteins (HDL) mop it up and take it back to the liver for re-cycling. If you suffer from ongoing inflammation or damage to the endothelium (artery lining), a high level of cholesterol will remain. This will show as a high LDL/HDL ratio, and you may have a build-up of lipoproteins (and cholesterol) in the walls of your blood vessels. Free radicals may attack and oxidise the build-up, damaging the artery linings, clogging arteries, and setting the scene for

blood clots. Ongoing inflammation is the cause of the atherosclerosis.²⁰⁶ Cholesterol is simply part of the repair mechanism.

Many researchers have shown that people with low cholesterol levels suffer significantly higher all cause rates of death.^{66, 127, 395, 396} Low cholesterol level is associated with high levels of cerebral haemorrhage (stroke), violence, aggression, suicide and poor social norms and self-control.^{127A} On the other hand, a 1997 study showed that high cholesterol levels halved the risk of dying in old people,⁶⁶ a result since confirmed in other studies.^{395, 396}

You need SFAs in your diet for good health and longevity. Egg yolks, caviar (fish eggs), animal fats from meat and unprocessed dairy food, and coconut oil provide them. Saturated fats are essential for the integrity of cell membranes, the production of many hormones, for taking up calcium, for good liver, digestion and immune function, and in vitamin and essential fatty acid pathways.

Having sufficient SFAs in your diet makes your LDL cholesterol particles larger and lighter, which is good. When LDL particles are small, oxidised or dense, the risk of heart, artery and other diseases increases substantially.

Butterfat (Ghee) gives the mouth feel and flavour to ice creams, cheeses, creams and so on. You can make it by heating butter and straining it to remove the milk solids. Ghee is a stable cooking fat that can be stored unrefrigerated. It can better withstand higher temperatures than most other cooking fats, and is the main cooking fat used in India.

Coconut oil contains 90% SFAs. Over half of coconut oil comprises medium chain triglycerides, which can lower your body fat, improve glucose metabolism and reverse arteriosclerosis. It is a rich source of lauric acid, which enhances your immune system and has potent antiviral, antifungal and antimicrobial properties. When you heat it, it does not create high levels of free radicals. For this reason, coconut oil is one of the best oils to use for cooking. I recommend unprocessed coconut oil as one of the principal oils to use in your kitchen. I use it most days, both to eat and to put on my skin. Coconut oil, like other SFAs, will store for months or years.

Palm oil is another source of lauric acid. Palm kernel oil has a profile very similar to coconut oil, with 88% SFAs. Like coconut oil, it is suitable for cooking. Red palm oil, also known as palm oil, has 49% SFAs, and 37% MUFAs. It has a different flavour, and is an excellent source of vitamin E.

The best oils to cook with are coconut oil, palm kernel oil, and animal fats such as ghee, tallow and lard. These healthy oils can withstand cooking temperatures that would turn most other oils toxic. Butter is another fat I use daily (margarine is a dangerous poison).

Monounsaturated fats

Monounsaturated fatty acids (MUFAs) are liquid, cloudy or somewhat solid at room temperature. The best sources of MUFAs are olive oil, avocados, and fresh raw tree nuts. Almond, cashew, hazels, macadamia, peanut, pecan and pistachio oils are all high in MUFAs.

I recommend extra virgin, cold expeller-pressed **olive oil** for everyday use in your kitchen. It should have a green to golden yellow colour and look slightly cloudy. The freshest oils have a hot chilli flavour that disappears few weeks or months after picking – this heat is prized among people knowledgeable about olive oil, proving that it is fresh. Ripe olives are a soft fruit, and the oil is extracted without using the harsh methods needed to extract most other vegetable oils. “Light” olive oils with a lighter colour and more neutral flavour have been refined and so are less nutritious. Try not to heat olive oil. Saturated fats are best for cooking and frying.

Top quality extra virgin olive oil is ideal for salads, dips and dressings. You should not cook with olive oil. You can use fresh, organic, cold-pressed sesame, macadamia, walnut and mustard seed oils, but only in small quantities. Buy small amounts, and keep them tightly sealed in the refrigerator.

Canola oil is high in MUFAs and has a good balance of Omega-3 and 6's, but try to avoid it. Canola is a derivative of rapeseed, and contains up to 5% toxic erucic acid, and iso-thio-cyanates, which are cyanide-containing compounds. In addition, chemical sprays are used heavily on most canola

crops, and heat, solvents and bleaching are the normal methods of extracting the oil from the seeds. Canola oil is an industrial oil, used as a lubricant, and as a feedstock for soap and synthetic rubbers.

Peanut oil is around 50% MUFA, with some PUFA and Omega-6s. It has a neutral taste. I do not recommend it because it is often damaged during extraction, and can contain aflatoxin from mouldy nuts. Also, peanuts are legumes, not tree nuts.

Polyunsaturated fats

Polyunsaturated fatty acids (PUFAs) are liquid at room temperature, and even in freezing conditions. You get them from seeds such as canola, corn, cottonseed, grapes, mustard, pumpkin, safflower, sesame and sunflower. Some legumes like peanuts and soy are used to make PUFAs. These golden vegetable oils are the biggest sellers in supermarkets, under the guise of being healthy oils. Tree nuts and fish oils are also high in PUFAs.

PUFAs oxidise and degrade quickly on exposure to heat, air, light, alcohol and fructose, so they are not suitable for cooking. If they oxidise or go rancid, they generate toxic compounds. Flaxseed oil in particular is highly reactive, and oxidises on exposure to air at room temperature. Rancid oils are toxic and responsible for many diseases – see page 96.

Modern Western diets contain an excessively high level of PUFAs, as do virtually all processed foods. They accelerate your ageing, cause skin wrinkling, and are associated with heart disease,^{306,307,309,344} atherosclerosis and brain deterioration.^{127,204,205,206,207} PUFAs cause inflammation, an unfortunate part of many degenerative diseases. If you suffer from autoimmune disorders, allergies, a high toxic load or chronic infections, you are also likely to suffer from an inflammatory spiral of pain, redness, irritation and swelling. Arthritis, rheumatism, gout, myalgia, skin inflammations and stomach ulcers are typical inflammatory diseases.

PUFAs are one of the main causes of liver disease,^{211,219,308} and one of the best ways to recover from liver disease is a diet high in saturated fats such as coconut oil and butter.^{212,219}

Cottonseed and **soy bean** oils are particularly dangerous. Both are extracted using heat, solvents, bleaches and other chemical processes that damage the PUFAs. Soybeans and particularly soy oil contain phytic acids called lectins (as phytohemagglutinin) which cause blood thickening, atherosclerosis, immune and hormonal problems. Cottonseed oil contains various toxic residues such as glossypoll, which inhibits the production of sperm.

Essential fats

Essential fatty acids (EFAs) are those PUFAs that your body can't make itself, and that you have to get from foods. Fish, seeds and nuts contain high levels of EFAs. EFAs are used for your digestive system, the provision of energy and transport of oxygen, blood cell functions, clotting and keeping blood vessels clean and well lubricated, the maintenance of cell membranes, the making of hormones, and the structure of the brain, nerves, eyes, reproductive organs and ears.

Two EFAs are out of balance in most people: linoleic acid (Omega-6) and linolenic acid (Omega-3). The problem with modern Western diets is an excess of Omega-6 and a shortage of Omega-3s.²⁰⁷

High levels of EFAs (particularly Omega-6s) are toxic, and associated with cancer,^{251,252} heart disease,¹²³ strokes, inflammation, obesity, allergies, asthma and mental illness.²⁰⁷ *Today's rich world diets contain a toxic excess of omega-6 vegetable oils*, and there is a close correlation between their widespread use in any country, and a dramatic increase in the above diseases.

A deficiency of **Omega-3** oils can cause problems such as inflammation, lack of strength and coordination, growth retardation, brain dysfunctions including behavioural and learning problems, and dry or inflamed skin.

Having sufficient Omega-3s will:

- give you a well-hydrated, beautiful skin
- reduce inflammation

- protect against heart and artery disease
- maintain cellular hydration
- protect and enhance your brain and nervous system
- protect you from metabolic syndrome

Omega-6 / Omega-3 ratio. Our Paleolithic ancestors ate a diet rich in both these EFAs, especially Omega-3s, with a ratio of about 1:1.²⁶ Modern diets average a ratio of between 10:1 and 20:1. Many researchers believe there is a strong link between childhood ADD, hyperactivity, learning disorders and behavioural problems, and a high consumption of polyunsaturated vegetable oils with no Omega-3 content. This is typical of the PUFA oils used in processed and junk food, and the golden vegetable oils on supermarket shelves. They include canola, corn, cottonseed, margarines, soy, sunflower, safflower and peanut oils.

Try to eat foods with both marine and plant sources of Omega-3 oils. The best sources of plant Omega-3s are dark leafy green vegetables, microalgae such as spirulina and walnuts. Grass contains Omega-3 oils, and animals that are free to graze on grasses have these oils in their products. Seeds such as chia, flax, pumpkin and mustard contain Omega-3s, but seed sources are not recommended.

The richest sources of marine Omega-3 EFAs are fish eggs (caviar), krill, sardines, salmon and mackerel . Marine Omega-3s are also found in oily cold-water fish like herring, swordfish, mullet, tailor and tuna. Oysters, squid and calamari are other sources. People in Japan and the Pacific islands eat plenty of natural raw fish (think of sashimi and sushi) and they are renowned for their low incidence of cancer and heart disease.

Farmed fish and feedlot animals have roughly half the level of Omega-3s in their wild or free-range cousins, and double or more the level of Omega-6s. Salmon produced in fish farms, eggs produced by chickens cooped up in pens rather than free to scratch around in the grass, and beef produced by grain-fed cattle in feedlots do little to improve your Omega-6 / Omega-3 ratio.

Beef, lamb, fish and shellfish have a healthier Omega-6 / Omega-3 ratio than the white meats from poultry and pork.

Supplementation. Unfortunately, EFAs degrade easily. They oxidise and turn rancid when exposed to the air, degrade when exposed to the sun or bright light, and cannot be heated.

In the shop, Omega-3 supplements such as flax, mustard and evening primrose oil should come in a sealed opaque container topped up with nitrogen, and stored in the cooler. It is important to check their use-by date. *Important: do not eat them if they taste the least bit rancid, as they can become quite toxic and a concentrated source of free radicals.*

If you are eating the diet recommended in *Grow Youthful*, you will not need to take omega-3 supplements. Fish eggs, microalgae oils and other food sources are more effective sources of omega-3 EFAs than flax seed oil.^{213,214}

Flax oil is the richest source of plant Omega-3s. It is extremely unstable and only needs an hour in the sun between the factory and the shop to ruin it. Oxidised flax oil is known as linseed oil, which dries to a shiny shell and is used in some paints. It has a characteristic smell, and if you detect it in any oil or foods containing oils, throw them out. Rancid oils are toxic (see Bad Oils, below). This especially applies to flax oil – you are better off avoiding it than risking consuming flax oil that is even slightly off.

Flax seeds have a high concentration of lignans, which bind to estrogen receptors around the body.⁴³¹ Flax phytoestrogens can lead to [estrogen dominance](#) and the dozens (hundreds?) of ailments it causes.

Chia seeds are a source of plant Omega-3 oil. Relatively unknown until recently, they are a soft small white seed originating in South America. However, they often cause diarrhoea and are probably toxic in larger quantities.

Fish oils usually come from farmed fish, are highly processed, oxidised, rancid and have a suspect level of toxic contaminants. If you decide to

take a fish oil, cod liver oil is the best of them, high in vitamins A and D, DHA and EPA.

Omega % oil by weight and 6/3 ratio

	O-6	O-3	O-3	O-3	O-6/3
		plant	marine	total	ratio
Flax oil	12.7	53.3	0.0	53.3	0.2
Flax seeds	5.9	20.8	0.0	20.8	0.3
Chia seeds	5.8	17.6	0.0	19.3	0.3
Canola oil (rape seed oil)	22.2	11.2	0.0	11.2	2.0
Walnut oil	52.9	10.4	0.0	10.4	5.1
Butternuts, dried	33.7	8.7	0.0	8.7	3.9
Wheat germ oil	54.8	6.9	0.0	6.9	7.9
Soybean oil	51.1	6.8	0.0	6.8	7.5
Walnuts	40.0	6.0	0.0	6.0	6.7
Mayonnaise, soybean	37.1	4.2	0.0	4.2	8.8
Canned Sardines	2.5	0.2	3.0	3.2	0.8
Cod, Atlantic	0.0	0.0	3.0	3.0	0.0
Mackerel, Atlantic	1.0	0.1	2.5	2.6	0.4
Canned Mackerel	0.2	0.2	2.3	2.5	0.1
Bread - Soy & Linseed	1.9	2.2	0.0	2.2	0.9
Canned Salmon - Red	0.2	0.1	2.0	2.1	0.1
Beechnuts, dried	18.4	1.7	0.0	1.7	10.8

	O-6	O-3	O-3	O-3	O-6/3
		plant	marine	total	ratio
Tuna	0.3	0.2	1.5	1.7	0.2
Herring	0.5	0.1	1.5	1.6	0.3
Margarine, hard	19.4	1.5	0.0	1.5	12.9
Soybean kernels, roasted	11.2	1.5	0.0	1.5	7.5
Canned Oysters, Smoked	4.6	0.1	1.4	1.5	3.1
Whitefish, lake	0.7	0.2	1.3	1.5	0.5
Sturgeon, Atlantic	0.6	0.0	1.5	1.5	0.4
Trout	1.0	0.3	1.1	1.4	0.7
Salmon, Red	0.7	0.2	1.2	1.4	0.5
Anchovies	0.2	0.0	1.4	1.4	0.1
Canned Salmon - Pink	0.1	0.1	1.3	1.4	0.1
Sprat	0.2	0.0	1.3	1.3	0.2
Butter	1.8	1.2	0.0	1.2	1.5
Swordfish	0.6	0.2	1.0	1.2	0.5
Bluefish	0.4	0.0	1.2	1.2	0.3
Safflower oil	77.0	1.0	0.0	1.0	77.0
Hickory nuts, dried	20.9	1.0	0.0	1.0	20.9
Chicken fat	19.9	1.0	0.0	1.0	19.9
Eel, European	0.5	0.7	0.2	0.9	0.6
Eggs, Omega-3 Enriched	1.0	0.6	0.3	0.9	1.2

	O-6	O-3	O-3	O-3	O-6/3
		plant	marine	total	ratio
Bass, striped	0.0	0.0	0.8	0.8	0.0
Leeks	0.5	0.7	0.0	0.7	0.7
Atlantic Salmon	0.2	0.0	0.6	0.6	0.2
Pecan nuts	24.0	0.6	0.0	0.6	40.0
Carp	0.8	0.3	0.3	0.6	1.3
Oyster	0.4	0.1	0.4	0.5	0.8
Halibut, Pacific	0.2	0.1	0.4	0.5	0.4
Krill	0.0	0.0	0.5	0.5	0.1
Wheat germ	3.8	0.4	0.0	0.4	9.5
Hake, Pacific	0.2	0.0	0.4	0.4	0.5
Mussel	0.1	0.0	0.4	0.4	0.3
Sturgeon, common	0.1	0.1	0.3	0.4	0.3
Mackerel, Spanish	0.1	0.0	0.4	0.4	0.3
Canned Tuna	0.1	0.0	0.4	0.4	0.1
Squid	0.0	0.0	0.4	0.4	0.1
Tailor	0.1	0.0	0.3	0.3	0.2
Calamari	0.0	0.0	0.3	0.3	0.1
Sardine, fresh	0.0	0.0	0.3	0.3	0.1
Scallops	0.0	0.0	0.3	0.3	0.1

	O-6	O-3	O-3	O-3	O-6/3
		plant	marine	total	ratio
Bass, fresh water	0.4	0.0	0.3	0.3	1.3
Perch, Ocean	0.3	0.0	0.3	0.3	1.0
Beans, sprouted, cooked	0.2	0.3	0.0	0.3	0.7
Sesame oil	41.3	0.3	0.0	0.3	137.7
Crab	0.1	0.0	0.3	0.3	0.3
Mushrooms	0.1	0.3	0.0	0.3	0.2
Spinach, boiled	0.1	0.3	0.0	0.3	0.2
Snapper	0.1	0.0	0.2	0.2	0.2
Whiting	0.1	0.0	0.2	0.2	0.4
Macadamias	1.3	0.2	0.0	0.2	6.5
Canned Chickpeas	0.8	0.2	0.0	0.2	4.0
Cheese Parmesan	0.6	0.2	0.0	0.2	3.0
Cheese Cheddar, reduced fat	0.4	0.2	0.0	0.2	2.0
Cheese Mozzarella, reduced fat	0.3	0.2	0.0	0.2	1.5
Canned Baked Beans	0.1	0.2	0.0	0.2	0.5
Canned Red Kidney Beans	0.1	0.2	0.0	0.2	0.5
Flounder	0.1	0.0	0.2	0.2	0.5
Clam, Japanese	0.0	0.0	0.2	0.2	0.0
Cod, Pacific	0.0	0.0	0.2	0.2	0.0

	O-6	O-3	O-3	O-3	O-6/3
		plant	marine	total	ratio
Haddock	0.0	0.0	0.2	0.2	0.0
Pumpkin seeds, dried (pepita)	20.7	0.2	0.0	0.2	115.0
Lobster	0.0	0.0	0.2	0.2	0.2
Sunflower oil	3.6	0.2	0.0	0.2	18.0
Prawns	0.1	0.0	0.1	0.1	0.5
Turnips	0.0	0.1	0.0	0.1	0.3
Lamb - lean	0.2	0.1	0.1	0.1	1.6
Spinach, raw	0.0	0.1	0.0	0.1	0.2
Parsley	0.1	0.1	0.0	0.1	0.8
Hazelnuts	7.0	0.1	0.0	0.1	70.0
Avocado	1.9	0.1	0.0	0.1	19.0
Chocolate, milk	0.8	0.1	0.0	0.1	8.0
Chocolate, Mars bar	0.5	0.1	0.0	0.1	5.0
Olives	0.4	0.1	0.0	0.1	4.0
Cheese Cottage	0.2	0.1	0.0	0.1	2.0
Raspberries	0.2	0.1	0.0	0.1	2.0
Broccoli	0.1	0.1	0.0	0.1	1.0
Strawberries	0.1	0.1	0.0	0.1	1.0
Cauliflower	0.0	0.1	0.0	0.1	0.0

	O-6	O-3	O-3	O-3	O-6/3
		plant	marine	total	ratio
Lettuce	0.0	0.1	0.0	0.1	0.0
Grape seed oil	69.6	0.1	0.0	0.1	696.0
Eggs, (battery-raised Chicken)	1.2	0.0	0.0	0.1	16.6
Beef - lean	0.1	0.0	0.0	0.1	1.9
Pumpkin	0.1	0.1	0.0	0.1	1.0
Green beans	0.1	0.1	0.0	0.1	0.8
Almond oil	17.4	0.0	0.0	0.0	∞
Peanut oil	32.0	0.0	0.0	0.0	∞

Source: U.S. Dept. Agriculture, USDA Nutrient Database for Standard Reference, Release 20.

Bad fats

Oils made from grains and legumes

On page 28 I discussed how grains and legumes are toxic. Well, the oils extracted from them are even more poisonous. Avoid these polyunsaturated fats. They are the golden vegetable oils lined up in your supermarket. They include canola, corn, cottonseed, flax oil, grape seed, mustard seed, peanut, safflower, sesame, (all seed oils), soy and sunflower oils.

Virtually all natural oils occur in a *cis* or undamaged configuration. Most seed oils that you buy in the supermarket are extracted in factories using high temperatures and/or pressures, bleaches, chemical solvents and other chemical techniques to de-odourise and make them more attractive to their unsuspecting consumers.

This is the only way to extract them from their hard seed or bean source – particularly soy oil, and also cottonseed and canola. The golden vegetable

oils that emerge from these industrial processes are no longer in their natural *cis* state.

Most grain and legume oils did not exist prior to being invented in the last hundred years. They are toxic and hard-to-digest. Unfortunately, they are so widely used that many people eat them virtually every meal, and never have a change to notice what a difference it makes without them.

Grain and legume oils are responsible for a wide variety of modern degenerative diseases, particularly cancers, digestive problems, macular degeneration and diseases based around hormonal upsets mimicking excess estrogen.

Hydrogenated and trans fats

Food manufacturers have discovered a cheap way of keeping processed foods fresh-looking and fresh-tasting longer. Hydrogenated vegetable oils and trans fats are stable, take ages to spoil or go rancid, can be heated to high temperatures, spread well, have good baking qualities, and have a good mouth feel. They keep bread moist, and act as an emulsifier – for example, stopping the oil separating in peanut butter.

Hydrogenated oils are made by heating them with hydrogen gas under pressure with a metal catalyst for several hours. The oil is converted from its natural *cis* state to a toxic trans-fatty acid (TFA). Margarine, solid fats (vegetable shortening) and liquid oils are all produced this way. TFAs are also formed when polyunsaturated vegetable oils are exposed to excessive heat and light. These oils are synthetic foods with a molecular structure humans did not evolve to digest.

Trans fats occur naturally in meat and dairy products, and these trans fats are not harmful. It is the man-made trans fats that are dangerous. These manufactured trans fats are associated with a wide range of degenerative diseases and obesity. The first hydrogenated fat, margarine was invented in the 1860s by a French chemist, Hippolyte Mège-Mouriès. Between 1920 and 1960, there was a huge increase in consumption in the Western world, particularly North America, which coincided with increases in the above diseases.

A quick way to paralyse your immune system is to eat significant quantities of (polyunsaturated) deep-fried foods or hydrogenated fats every day. White blood cells that are the pillars of the immune system are dependent on natural, undamaged essential fatty acids. If you consume hydrogenated fats, they can replace the EFAs in your white blood cell membranes. This makes your white cells function sluggishly and their membranes actually become stiff.²⁶ Your immune system is compromised and cancer or infections by yeasts, bacteria and viruses can occur.

Hydrogenated oils are strongly associated with heart and artery diseases.^{72, 127} They inhibit membrane functions, and are likely responsible for cancers, degenerative diseases, the obstruction of healing and immunity, and accelerated ageing.

Hydrogenated, partially hydrogenated and trans fats are found in margarine, vegetable shortenings, non-dairy creamers and toppings, commercial mayonnaise, bottled salad dressings, chocolate and virtually all commercial baked goods, frozen dinners and processed, packaged and snack foods. These oils are widely used by fast food outlets, and in particular for cooking fries (chips).

USA's labelling laws have required trans and hydrogenated oils to be listed on food packaging since late 1999. In Australia, there is no such requirement, with all these oils listed as vegetable oil. If in doubt, assume that the product contains them.

Oxidised fats

Oxidised fats smell and taste horrible. PUFAs go rancid when exposed to light, heat and air. Flaxseed oil can go rancid within an hour, but all PUFAs are subject to rapid deterioration. MUFAs such as olive oil take longer, and under ideal conditions can last for months. Saturated fats are stable, and can even be stored outside the refrigerator for long periods. It is still a good idea to buy small quantities of any oils to ensure they are fresh, and to store them in a closed container in the fridge. Foods that contain unstable oils such as nuts, grains and seeds can go rancid, and foods cooked with PUFA oils, such as commercial chips and baked goods can go off. Oxidised oils can cause cancers, arterial and other degenerative

diseases, inflammation, and premature ageing, as discussed in the section on PUFAs.

Overheated fats

Try not to heat any oils to high temperatures, especially PUFAs.¹²⁸ Heat damages the structure of oils, oxidises them, and creates some level of trans fats. Many of the golden vegetable oils sold in supermarkets have been heated and damaged during their processing – that is why you should look for cold-pressed, virgin oils.

Heating fats above 48°C destroys any enzymes in them. Raw fats, including saturated animal fats, are nutritious and easily digestible. Heated oils, without their food enzymes, are more difficult to digest (page 121).

Ensure cooking oils are not heated much beyond water's boiling point by adding a little water when frying. Keep it fast, and keep the temperatures down. Stir-frying is a great way to cook, which adds to the flavours and does not do too much damage to the food.

Any oil heated to smoking hot becomes toxic. If it happens accidentally, throw it away. The smoke from burning oils is also highly toxic – avoid breathing it. This brings us to barbecues, which unfortunately are not a recommended method of cooking. If you have to use a barbecue, keep the temperature as low as possible, and do not cook the food directly in an open flame. Charred, blackened, burned oil and food is toxic.

If you have to cook at high temperatures, use clarified butter (ghee). Ghee can withstand temperatures up to 200 degrees centigrade for short periods without severe damage. Other saturated fats (coconut oil, tallow and lard) are also suitable for frying and cooking.

Used fats

Fats are damaged when they are heated several times or for long periods¹²⁸. I recommend that if you deep-fry any food, you throw away the oil after using it just once. Unfortunately, most restaurants,

cafeterias, fast food outlets and food manufacturers never do that. They only change the oil when it becomes rancid or too thick to use.

Deep fried foods are dangerous when they have been cooked in old, used oil – as is the case with almost all commercially prepared food. Within hours of such a meal, the toxic compounds in used fat restrict your blood flow and affect the lining of your arteries. In the long-term, degenerative diseases such as heart disease and cancers are the likely outcome of such a diet.²⁸

SOURCES OF SYNTHESISED TRANS FATS

% by weight, average of several brands

Copha (vegetable shortening)	30.8	French fries - take away	2.5
Margarine	10.0	French fries - frozen, raw	2.5
Potato Crisps with cottonseed oil	10.0	Mayonnaise	1.8
Popcorn	8.0	Sausage - bologna	1.5
Taco shells, corn	8.0	Salad dressing	1.5
Biscuits vanilla crème	7.1	Olive oil – cheap, second Pressing	1.0
Danish pastry	6.9	Sausage - Frankfurter	1.0
Biscuits choc chip	6.5	Soup - instant packet full fat	1.0
Biscuits chocolate crème	5.6	Bread brown	1.0
Biscuits crackers	5.5	Cheese processed	0.8
Cake pound cholesterol free	5.4	Beef burger	0.8
Biscuits cheese	5.2	Bread white	0.8
Chocolate bar - caramel	4.2	Breakfast cereal – corn, oat, fruit	0.8
Corn chips	4.1	Breakfast cereal - rice crispy	0.8
Chocolate - creamy desert	3.7	Cheese spread	0.6
Biscuits - plain buttermilk	3.6	Cheesecake	0.6
Muffin	3.6	Chicken burger	0.6
Doughnut plain	2.5		

Breakfast cereal – wheat bran, oat, fruit	0.6	Chocolate - plain milk	0.1
Desert - frozen ice cream	0.4	Olive oil - virgin cold pressed	0.1
Milkshake with ice cream	0.4	Potato Crisps – soy and corn oils	0.1
Cake pound fat free	0.4	Baby food – vegetable beef pure	0.1
Sunflower oil	0.3	Bread rye	0.1
Soup – instant packet low-fat	0.3	Milkshake low-fat	0.1
Bread rolls	0.3	Palm oil	0.0
Sausage – Pork	0.2	Peanut oil	0.0
Canola oil	0.2	Soy oil	0.0
Breakfast cereal –		Corn oil	0.0
corn flakes	0.2	Chicken breast (no skin)	0.0

Source: U.S. Dept. Agriculture, USDA Nutrient Database for Standard Reference, Release 18.

MICRONUTRIENTS

YOU ARE PROBABLY NOT GETTING ENOUGH

Micronutrients are the minerals, vitamins, enzymes, hormones and phytonutrients in your food that are essential for your physical and mental health. The best source of micronutrients is a varied diet of organic, in-season vegetables, free ranging animal products, ripe-picked fruit, and raw tree nuts.

The health benefits you get from having a sufficient level of micronutrients are overwhelming. Hundreds of scientific studies published in respected medical journals have proved repeatedly that getting sufficient micronutrients is a key to health and longevity. Optimal nutrition will improve your immune system, raise your IQ and mental performance, lower your chances of getting a degenerative disease, make you look and feel vital, strong and well, and extend your life.

Nine out of ten people are suffering from a severe micronutrient deficiency.^{31,68} It is unlikely that you are getting the full range of micronutrients that you need for optimal health because:

- Few of us, especially those of us living in cities, eat only ripe-picked, organic and free-range foods grown in rich-microorganism, mineral-dense soils. You may be eating lots of supermarket vegetables and fruit, mistakenly thinking you are getting sufficient micronutrients. For example, some supermarket oranges have virtually no vitamin C.³⁶ With green-picked fruit the situation is serious. In the worst cases, fruit and vegetables that look ripe and appealing can contain negligible micronutrients. In an extensive survey, carrots had between 70 and 18,500 IUs of vitamin A.⁶⁸ The best had 264 times more than the worst!
- The majority of adults have damaged digestive systems, caused by antibiotics, ageing and processed foods. Most people absorb only a small portion of the micronutrients from the food they eat.

- In today's polluted and stressful world, you need higher levels of many micronutrients than you would if you were living in a pristine and perfect environment.
- Even best foods grown in some areas are deficient – for example, iodine is often lacking in soils some distance from the sea. The vast expanse of ancient sandy soils making up West Australia (where I live) are deficient in most trace elements, especially zinc, selenium, molybdenum, magnesium, iodine and manganese.
- Most food (including organic and free-range food) is not as rich in micronutrients as it used to be. When food is exported from farms, there is a slow loss of nutrients from the soil. All over the world soils have gradually become mineral-deficient, even in the richest and deepest agricultural basins. When all the produce of a farm is consumed and recycled on the farm there is no loss of soil nutrients, but with most of the world's population living in towns and cities this is no longer the case. Soil erosion and degradation have also taken a heavy toll in virtually every country. It may be possible to replace most of the lost minerals with seaweed, manure or compost imported from outside the farm, but this is expensive and time consuming.

SUPER FOODS

Super foods are dense sources of nutrients - superb natural supplements of both macro and micronutrients, broad, complex and synergistic - just the way nature intended.

Nutrient-dense foods and herbs (along with the living foods recommended in *Grow Youthful*) are nearly always the most effective treatment for any ailment. Many forward-thinking doctors are getting better results with diet and supplements than they used to with drugs. Nutrients often get to the root cause of the problem, rather than treating the symptoms. Most super foods do not have side effects, even in high doses. The same applies to the majority of herbs – though several herbs do have negative consequences when taken in high doses or for extended periods.

Remember that each of the super foods below is not good for everyone. For example, my body does not particularly like blue-green algae – I find it a little astringent and do not get a warm feeling of nourishment from it.

The drug companies cannot patent naturally-occurring foods and nutrients. It is only when a pill can be patented that big profits can be made. Therefore, they have little interest in promoting cheap natural sources of micronutrients, which are often the most effective prevention and cure for a wide range of diseases (page 268).

Bee pollen is flower pollen collected by honeybees from a variety of plants, and is the bee's main food. It is a concentrated source of nutrients, rich in vitamins, minerals, and over 5000 enzymes and coenzymes. Bee pollen stimulates your immune system. Elite athletes take it regularly for strength and endurance. Research has shown it to be an effective treatment for prostate enlargement and prostatitis;⁶¹ food allergies, and cancer treatment.⁶² A Russian study in Georgia found that many centenarians were beekeepers who often ate raw honey straight out of their hives, with all the impurities including the pollen. In another study, the control rats that were exposed to industrial solvents suffered significant liver damage, but there was little effect in those that were fed bee pollen.⁶³

You can buy bee pollen from local beekeepers or health food stores. Make sure it has not been heated. Start with a tiny dose, as many people are allergic to it when exposed to the enzymes for the first time. Slowly build-up to a quarter teaspoon a couple of times a day.

Berries. Black, purple, red and blue coloured berries, such as black grapes, blackcurrants, blueberries, raspberries, mulberries, blackberries, redcurrants and cranberries are rich in nutrients and anti-inflammatory agents. Look for black grapes with seeds – the seeds are highly nutritious. Blackcurrants, redcurrants, gooseberries, cranberries, loganberries, and raspberries are a rich source of glyconutrients (page 70). Berries are such a valuable food that I recommend going out of your way to look for them, and to eat them regularly. Berries are usually available in the frozen food section of a supermarket.

Eating too many berries can cause diarrhoea.

Farmed berries tend to be heavily sprayed, so wash them according to the instructions on page 38, or pick them wild yourself.

Bone Stock. Stocks add immeasurably to the flavour of foods, and are the secret ingredient in fine restaurants around the world, especially in Europe. Stocks made by simmering bones, gristle, joint cartilage and carcasses for 6-24 hours are a highly nutritious essential in every traditional cuisine, and their value has been proved over thousands of years. The nutrients in the carcasses of animals, fish and birds are often missing in the modern fast-food diet. Stocks contain minerals from bone, cartilage, marrow and vegetables in easily digestible electrolyte form. A little wine or vinegar added at the start helps draw the minerals into the broth.

Bone stocks are also one of the keys to good digestion, healthy skin, healthy joints in old age and of course strong bones. Gelatine is simply cooked collagen. If you regularly use whole-carcass bone stocks, you won't need to take supplements like collagen and glucosamine because you will get a superior and delicious form in your food.

Our ancestors used meat on the bone, and valued fish and chicken carcasses, fish heads, and chicken feet. A healing bowl of chicken soup is rich in gelatine and traditionally used to enhance the immune system. Fish head stock includes the fish thyroid glands, helping to remedy thyroid/iodine deficiencies from which nearly half Western adults suffer (symptoms: low energy, frequent colds and 'flu, inability to concentrate, weight gain). Gelatine is an important component in digestion, attracting digestive juices to cooked food particles and helping to digest proteins effectively. French cuisine relies on stocks that just happen to be rich in a range of minerals, gelatine, iodine and glyconutrients.

Blue-green algae are a protein-rich food grown in lakes and ponds throughout the world for centuries. They contain chlorophyll and a wide range of micronutrients, especially GLA (an Omega-6), vitamin B complex, minerals and beta-carotene. Algae foods can enhance the immune system, detoxify (especially heavy metals) and heal skin problems and

arthritis. Spirulina, Chlorella and Klamath are the names given to algae from various sources. For many years, chlorella has been cultivated in third world countries as a cheap and highly nutritious form of protein.

Warning –some species of blue-green algae are deadly toxic, so don't harvest them yourself without expert advice. Even those that have been bred for human consumption are reputed to have high levels of neurotoxins, so use only small quantities and take regular breaks from their use.

Coconut Oil. Coconuts are nature's best source of lauric acid, which gives protection from yeasts, viruses, parasites and other pathogens in the digestive system. It is good for the skin, and enhances the immune system. Coconut oil should be organic, raw and unprocessed. A good quality coconut oil should be slightly off-white in colour and have an enticing coconut cookie smell. Poor quality coconut oil does not have that delicious smell, but instead has a slightly rancid smell and may be a browner colour.

Other sources of coconut oil are creamed coconut (hard white blocks that you can buy in Asian and some health food stores), canned coconut milk (buy whole not light milk, with no additives), and desiccated coconut (ensure it has no added sugar, like that sold in most supermarkets).

Cruciferous vegetables include broccoli, Brussels sprouts, cabbage, cauliflower, cress, horseradish, kale, kohlrabi, radish and turnip. A phytonutrient in these vegetables named glucosinolate significantly enhances your liver's detoxification ability. According to one study, eating these foods every day will halve your cancer risk.³⁵ However, I would advise you to monitor how you feel on a diet high in these vegetables because they contain goitrogens, which can inhibit your thyroid function. Light cooking destroys their goitrogens.

Fish are a good source of protein and micronutrients, including the brain foods choline and DMAE. The Omega-3 essential fats DHA and EPA are found in most fish, especially carnivorous fish such as tuna and salmon. If

you eat the fish raw, these nutrients are the most abundant and easy to assimilate, but if you prefer it cooked, then lightly steam or poach it.

However, freshwater fish and large carnivorous fish high in the food chain can have high levels of heavy metals, especially if they are caught in polluted areas (page 278).

Green grass juices are a valuable nutritional secret. Most of us have seen a cat eat grass. Many birds and animals, even carnivores, eat grasses. They instinctively know that their bodies need these greens, which may be different to their regular diet.

You drink the juice from a tot-sized glass on an empty stomach. The nutrients in the juice are so powerful that the effect of knocking back a tot is almost heady. If you are not used to it or your body is out of shape it can make you feel ill. So work up to it slowly.

Some people take a tot or even two tots every day. Others take it twice a week. Listen to your body.

Green grass juices contain green chlorophyll, enzymes, vitamins, minerals, phytonutrients and antioxidants. Chlorophyll, formed by the sun in the leaves of plants, is renowned as a blood cleanser.

The best green juices are made from grass that has been cut and juiced in the last few minutes. You can grow and juice grasses yourself, using a manual or a slow electric juicer. To make your own green juice, plant wheat, barley, corn, millet, oats or rice seeds in shallow soil in a planter box. The best time to harvest the shoots is after 5-12 days, just before the shoot joints to form a stem and leaves – this is when the nutritional bounty is at its peak.

You can buy green powders that you mix with water, which are obviously not as good as the fresh juice. There are juice bars springing up around most cities.

Mineral tonics. You can buy mineral supplements made from the contents of rich glacial valleys, peat bogs and moors, seaweeds and natural salt pans. They are often sold as colloidal minerals. One of the

most famous sources is the Neydharting Moor in upper Austria, which has been both a glacier and a lake over several million years. Around 150 acres in size, it is the depository of herbs, vegetation and glacial minerals in a complex biomass.

Mushrooms. Japanese and wild mushrooms such as shiitake, maitake, ganoderma, oyster, enokidake, amadou and reishi are highly nutritious, containing proteins, glyconutrients and other phytonutrients.

The Reishi mushroom is renowned for enhancing longevity, and is an important part of traditional medicine in China and Japan. It is hard, bitter and not suitable for cooking. However, several of the other mushrooms mentioned above are delicious. They improve your immune function, protect against tumours, have strong anti-allergy and anti-inflammatory effects, and are good for your liver.

Avoid raw mushrooms, which contain a mild toxin that is destroyed by cooking. Mushrooms have relatively tough cell walls, and are virtually indigestible if you do not cook them. Cooking them releases their nutrients including protein, B vitamins, minerals and a wide range of novel compounds not found in other foods.

The common white button mushroom is the least nutritious of the mushrooms.

Seaweeds are a great source of minerals, having traces of virtually all essential elements, especially iodine, magnesium, calcium, iron, sodium, potassium and phosphorus. They are also a source of vitamin B12. Seaweed is available as kelp, wakame, nori and many other forms. Some species such as kelp contain long chain complex sugars that are difficult to digest without a long period of cooking. On the other hand, wakame only needs a few minutes of soaking to make it ready to use.

Seaweeds are useful for the removal of heavy metals or radioactive elements from your body⁸⁵.

Vegetable and fruit juices slow-squeezed from organic, ripe-picked, raw produce are rich in minerals, enzymes, structured water and phytonutrients (pages 122, 137).

Wolfberry or Goji Berry. The Chinese wolfberry (*lycium barbarum*) is a small red berry about the size of a raisin, with a taste somewhat similar. The Chinese have used them for thousands of years in teas, soups and stews. In traditional Chinese medicine, wolfberries act on the liver, lung and kidney channels, and enhance yin. They make a good wine, and an excellent health tonic. You can eat them raw, soak them, or use them in cooking.

Wolfberries contain potent phytochemicals and a good range of minerals and vitamins. They are used as an anti-inflammatory, an immune system booster, to improve eyesight, liver function, sperm production, and blood circulation. Chinese practitioners have used them to slow the ageing process, and as a cancer preventative and treatment. Traditional Chinese medicine uses them to treat vision disorders such as cataracts, retinopathy and macular degeneration.

Wolfberries are widely available in China, and are now grown all around the world. The dried berries are usually available at little cost in Chinese or Asian supply stores.

I use them only occasionally and in very small quantities, because they have a high sugar content and affect me like raisins do. If I eat too many in the evening I get a sugar surge at night and don't sleep well.

HERBS

Thousands of herbs are used for healing, longevity, health maintenance, flavouring, smells, purgatives, abortion, you name it. Herbalists and Chinese herbalists are available in every city. A professional herbalist or naturopath can introduce you to a wider range of herbs if you have specific needs or ailments. Here are some of the herbs that assist with health and longevity.

Aloe Vera is one of the richest sources of three glyconutrients. Regular users claim that it slows their aging. It is an aid to the immune, nervous

and digestive systems. It is soothing, moisturising and healing for your skin,, and is good for sunburn (it is not a sunscreen however). Aloe vera gel helps with many digestive conditions, including heartburn and colitis. It also assists people with diabetes.

There are many species of aloe vera, and the one most commonly used for juicing and medicines is *aloe vera barbadensis miller*. The centre of the leaf contains a clear, slimy gel. This is the valuable part. The green-grey skin of the leaf contains aloin, a natural cathartic. I always remove this skin to avoid the laxative effect of the aloin, and because it tastes bitter.

Aloe vera is quite easy to grow in a pot, needing little water and a sunny spot. I often have a leaf with my vegetable juice. I use a vegetable peeler to remove the green skin, and then put the sticky slimy centre into my juicer. You don't need very much – just a tablespoon per day, although some people have 2-3 times this amount.

Culinary herbs such as rosemary, oregano, basil, thyme, sage, peppermint and spearmint are one of nature's richest sources of antioxidants. Fresh herbs have substantially higher levels of micronutrients than dried herbs, and they taste better. If you have limited time and space, a small herb garden probably gives the highest health return for your efforts. You can experiment with steeping these herbs in boiling water, and drinking the tea they make. Rosemary makes a good brew; make them weak, and drink those that feel good.

Echinacea (Purple Cone Flower). This herb stimulates your immune system, reduces inflammation, assists with healing wounds, and is an antibiotic and skin improver. It is used to detoxify respiratory and circulatory systems. In past centuries, the roots and rhizomes were used to treat fevers and infections, and even serious conditions such as malaria, diphtheria, meningitis and typhoid. With the widespread use of chemical drugs this herb was almost forgotten, but recent research has shown that it can match virtually any antibiotic. It also has anti-ageing properties.

Garlic is powerful herb with antiviral, antifungal and antibacterial properties. It contains about 200 known active compounds. It significantly protects against stomach cancer⁵⁹ and heart disease. It lowers blood pressure, and prevents blood clotting. It is a powerful booster for your immune system, and is a dietary source of selenium. It destroys fungus and yeasts such as candida.

Garlic is renown in the Orient as a potent sexual tonic, which is why monastic kitchens throughout the Far East avoid it. In Taoism and traditional Chinese medicine, garlic is pungent and dispersing. In particular, it disperses mental concentration. You can use raw garlic for specific problems, but do not take it continually.

One study showed that women who ate garlic at least once a week were 30% less likely to get colon cancer than those who never ate it, possibly because of the phytonutrient allicin.⁴³

It is most effective if consumed raw, as heat destroys many of garlic's properties, particularly the potent antiseptic ones.

I do not recommend garlic capsules or other preserved or dried forms, as it is likely that many of the compounds in raw garlic are destroyed in the processing.

Ginger. This hot or yang spice is used in about half of all Chinese herbal mixes. In India it is highly regarded for its warming effect and ability to stimulate digestion, relieve aches and pains, and settle morning sickness and upset stomachs. So far, more than four hundred compounds have been identified in ginger. It is an antioxidant, anti-fungal, antibiotic and immune system stimulator. It improves the digestion of proteins, protects against both stomach ulcers and intestinal parasites, treats nausea and motion sickness, suppresses coughs, reduces fever, and diminishes pain. At a cellular level it is an effective membrane fluidiser, and protects against cancer by preventing some carcinogens from causing DNA damage.

Ginger can play an important role in the regulation of eicosanoids, a group of hormones that mediate your healing and immunity. Eicosanoids imbalances may underlie many degenerative illnesses, and ginger

somehow moderates them in a way that reduces inflammation and blood clotting. Ginger is as potent as many anti-inflammatory drugs now in use and it has no side effects (most of the drugs damage your stomach lining, and have other nasty effects).

Early on a cold winter morning a few years ago, I met a woman swimming at the beach where I live. The ocean temperature was about 15°C. At first I guessed she was in her 40's, but it was only when she told me one of her children was just about that age that I realised that she had managed to slow her ageing. I commented on her youthful looks, and asked her if there was a reason for her good health (aside from taking a swim in the ocean nearly every morning). She replied that she ate a piece of raw ginger about the size of her thumbnail every day. It kept her youthful, and gave her protection from the cold.

You can peel, grate or chop ginger, and add it to many dishes, raw or cooked. Finely chop a piece the size of your fingernail, and use it to make a delicious tea.

Ginseng. Eastern medicine has long revered this slow growing root as an effective treatment for numerous health conditions, and a herb that promotes strength, physical and mental endurance, sexual vitality and longevity. Siberian Ginseng (*Panax Ginseng*) is a Taoist favourite for life-prolonging health, though there are many other varieties available.

Western researchers are beginning to unravel some of the specific benefits of the herb, including new findings that show it to be an effective blood glucose modulator⁶⁴ and membrane fluidiser. It soothes and regulates the central nervous system, stimulates the secretion of various hormones, and is of particular value for middle-aged and older people.

Use ginseng in moderation and only for limited periods. It is a powerful and complex plant, which is immune-suppressive in high doses.

Ginkgo Biloba. This ancient tree, possibly the world's oldest living species, is renowned for its ability to resist disease, pollution and insect attack. Extracts from, or teas made with the leaves are useful for treating ailments caused by inelastic veins and arteries. Over a period of 6 to 12

weeks it improves blood flow and oxygen supply to all organs, particularly the brain. It is an effective anti-ageing supplement, which improves your short-term memory, raises your energy level and counters depression. It is used to treat several symptoms of ageing, including erectile dysfunction, tinnitus, depression, dementia and migraines.

Hydrocotyle Asiatica Minor. A member of the pennywort family, this herb grows wild in the tropical marshes of Asia. The leaves and seeds contain a potent alkaloid that has powerful rejuvenating effects on the nervous and glandular systems. Several Chinese Taoists who lived into their second century have used it. In India, the guru Nanddo Narian taught his students that this herb was essential for longevity.

Maca (*Lepidium Peruvianum Chacon*). This root is a native of the central Andes in Peru. The locals have used it for centuries to gain strength, resistance, vigour and energy. It has a reputation as an glandular stimulator. I have found that it has aphrodisiacal properties. I take it on an ongoing basis as a health maintenance and anti-ageing supplement. Some people report that it makes them feel happy. Importantly, I stop taking it for one week each month, otherwise it loses its effectiveness. Taking a break from continual consumption is important with many herbs.

Stevia. If you want to sweeten your food without using sugar or chemical sweeteners, stevia is an effective and natural herbal alternative. *Stevia Rebaudiana* is a South American plant that has been used as a natural sweetener for generations. A powder extract made from the leaves is 300-400 times sweeter than table sugar. It is also available in liquid form, or as dried leaves. It is relatively stable during cooking. As a herb it has anti-fungal and anti-bacterial properties, and is used to treat burns, wounds and to strengthen the pancreas. It stabilises blood sugar levels and lowers blood pressure.

The powerful sugar industries lobbied against stevia and managed to get it banned as a sweetener in the USA, though it can be sold as a herb. In Europe it is completely banned. The irony is that sugar is the poison, not stevia.

Xylitol is another (non-herbal) sweetener that you can use in place of sugar. Originally made from birch bark, it is also found in fibrous vegetables, fruit and corn cobs. It looks and tastes like sugar. However it has a Glycemic index of 7, and is only slowly absorbed and metabolised by your body. This means it has little effect on your insulin level. It is a laxative in large quantities. Bacteria cannot ferment it, so it inhibits plaque formation in your mouth. It is beneficial for your teeth, reducing dental caries and assisting with the remineralisation of tooth enamel. Xylitol also has anti-bacterial and anti-fungal effects.

The sooner you stop using all sweeteners, the sooner your body will stop craving them.

ANTIOXIDANTS

Free Radicals. Free radicals are highly reactive, unstable molecules. Sometimes they react with healthy molecules in a destructive way. They grab whatever is handy - essential fatty acids, important structural or functional proteins, LDL cholesterol particles, your cell membranes and your DNA. After reacting with these molecules, they create toxic waste products that lower your energy level and interfere with processes such as cellular communication and protein, DNA and RNA synthesis.

Free radicals are usually created by oxygen-based reactions, so they are also referred to as oxidising agents or oxidants. Oxidation is a natural process that occurs in the body all the time, but which plays a role in the development of many degenerative diseases.

The calories in your food are converted into energy molecules (ATP), in a process that uses oxygen, and generates by-products called free radicals. *About 90% of the free radicals in your body come from the food you eat.*¹⁴

The more food you eat, the more free radicals are produced. This especially applies to the calorie content of your food, because it is the energy conversion that generates free radicals. High energy, high Glycemic index (page 224) carbohydrates are the most oxidising foods. The sugar or refined flour in breads, cakes, soft drinks, biscuits, sweets,

potatoes, jams and breakfast cereals generates high levels of free radicals.

Another major source of free radicals is your immune system. Because free radicals are so dangerous at a molecular level, one of the best ways to kill an invading organism is to bombard it with free radicals – and this is exactly what your white blood cells do.

Your diet, lifestyle, drugs, pollution and radiation are all accelerators of free radical production. There are many other sources of free radicals, such as stress and the environment in which you live.

Free radicals are not necessarily bad. Some scientists say that free radicals are the prime agent of ageing. Ageing occurs when you are unable to deal with the level of oxidants in your body, and the damage caused by free radicals accumulates. Over time, this damage also results in various degenerative diseases.

However, free radicals are essential for many life-sustaining processes, such as the production of energy in your cells, defence against germs by your white blood cells, and the production of hormones such as corticosteroids, eicosanoids, oestrogen and testosterone. The problem is an excessive level of free radicals – typical in a stressed junk food lifestyle.

In February 2013 Scientific American ran a lead article entitled *The Myth of Antioxidants*. Many studies over the last decade have shown that supplementing antioxidants cause shorter lives in worms and other animals, and that high levels of free radicals are associated with longer lives. They speculate that free radicals may stimulate various internal repair mechanisms, including autophagy where damaged or old cells in the body are destroyed and removed.

Other studies have shown that oxidative stress is associated with increased lifespan. Indeed, this is exactly what happens during aerobic exercise.

To reduce the damage done by (modern lifestyle) free radicals:

- Limit your intake of calories, particularly in the form of refined carbohydrates.
- Eat low Glycemic index foods. Keeping a stable blood glucose level gives your antioxidant and elimination systems time to work, and avoids the blood glucose peaks that are so damaging. These blood glucose peaks produce massive levels of free radicals.
- Eat foods high in natural antioxidants (see below).
- Minimise your exposure to pollution, toxins, stress and radiation.
- In some cases, take a daily multi-vitamin multi-mineral supplement that includes a variety of antioxidants (page 116), though this may be counter-productive.

Antioxidants are a group of electron-donating compounds that help protect you from free radicals. They combat the effect of oxidants – those foods, chemicals and stressors that increase the level of free radicals.

Your cells naturally produce virtually all the antioxidants that they need. The most important thing that you can do with regard to antioxidants is assist your cells produce what they need. This is a much more effective approach than trying to get more antioxidants through foods or supplements.

Cellular production of antioxidants is turned on by the oxidation of the omega-3 fatty acids EPA and DHA.³⁴⁷ This is one of the main reasons why it is essential to have sufficient omega-3s in your diet. Other factors that promote the antioxidant-producing enzyme in your cells include glutathione, the curcumin in turmeric, and components of green tea, milk thistle, broccoli, ashwagandha and coffee. Coffee is a strong cellular stimulator of antioxidants, as well as a food source of antioxidants.

Each antioxidant has a unique set of properties and behaviours. Some work inside your cells, others on the cellular membranes, or in the intercellular fluids. Therefore, it is important to get a variety of antioxidants and their backup micronutrients. No single antioxidant can protect you from the whole range of free radicals.

You also get antioxidants from your food if your diet includes sufficient suitable foods and your digestive system is able to extract them. There are probably hundreds of different antioxidants in a bowl of fresh salad. Two of the most powerful are vitamins C and E. They work in concert with other vitamins and minerals, particularly manganese, zinc and selenium. Beta-carotene, coenzyme-Q, glutathione, lipoic acid, phenols, polyphenols and flavonoids are other important antioxidants. Carotenoids are a group of around 600 pigments in the protein complexes of bright-coloured fruit and vegetables. They are powerful antioxidants, and include lutein, lycopene, alpha and beta-carotene, and zeaxanthin.

Cholesterol is an important antioxidant.^{127,206}

The best food source of antioxidants is a diet of fresh vegetables and fruits, animal (saturated) fats, herbs, tree nuts and super foods (page 102). Many studies confirm that the range of antioxidants in such a diet protects you from heart disease, various cancers, eye diseases such as cataracts and macular degeneration, and slows your ageing.

There is little evidence to show that antioxidants taken individually are effective. On the contrary, the antioxidants in a typical broad-spectrum daily vitamin-mineral pill may be harmful.²⁴⁰ Research shows that taking antioxidant supplements can actually increase the size of cancer tumours.

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SUPPLEMENTS

Do you need to take daily supplements of vitamins, minerals and other micronutrients? If you are like the majority of health-conscious people, living in suburbia, feeling some of the stresses, subject to some level of pollution, and dependent to some extent on supermarkets and commercial foods, then this is a reasonable question.

If you live in a city, eat a diet high in processed food, are exposed to a high toxic load through stress, pollution and drugs, and are over 40, then your body needs all the help it can get. A daily broad-spectrum micronutrient multi-mineral multivitamin antioxidant supplement may help you to fight disease, neutralise toxins and guard against free radicals. However, do not delude yourself that taking pills is a substitute for a living

food / super food diet. Pills are a last resort if you are not willing to change other aspects of your life. *Even then, you may not be better off taking any pills.*^{366,367,368}

Good digestion is the most important factor in getting all the nutrients you need. You can eat the most nutritious diet, but if you cannot digest your food you will still be malnourished. Years of poor eating make it likely that most adults have a weak and damaged digestive system.

Digestive aids will help you if you suffer from digestive problems, and especially if your stomach is not very acid. Take some unpasteurised sour liquid whey, apple cider vinegar, or betaine hydrochloride before each meal that contains concentrated protein (page 242 for details). Comfrey is an excellent digestive herb. The digestive enzymes amylase, protease, lipase and cellulase are rich in fresh raw foods. If most of your food is cooked or you do not eat a lot of fresh fruit and vegetables, these enzymes will improve your digestion.

Supplements (as opposed to drugs) are a huge, multi-billion dollar industry. Health practitioners who sell supplements directly to their patients have a conflict of interest. One of the best-known naturopaths in my city derives three quarters of his income from the supplements he sells to his patients, and only one quarter of his income from his consultation fees. He is a competent practitioner, but there is no doubt that he over-prescribes an excessive range and quantity of expensive supplements, rather than first and primarily attempting to change his patient's lifestyles and eating habits.

Everybody's micronutrient needs are different, depending upon their genes, family and health history, upbringing, exposure to pollution, lifestyle, diet, level of exercise, what medications or drugs they may be taking, whether they are premenstrual, menopausal, fighting an infection, feeling stressed and more. Smokers need more antioxidants, and regular drinkers need more vitamin B1 to prevent damage to the central nervous system. Professor Roger Williams⁷⁰ describes how it is common to find a ten-fold difference in the requirements for a vitamin between one person

and another. I strongly recommend correcting any deficiencies using living foods and super foods rather than pills.

Micronutrients like to work as a team. Vitamins, minerals and phytonutrients work most effectively in **synergy** – where small quantities of each assist the naturally-occurring quantities of all others. Synergy is an immensely complex process that science is only just starting to unravel.

You can take a dose of zinc sulphate or citrate to improve your skin or immunity, and it may be effective. Combine it with magnesium, and it will double its performance. Combine it with B vitamins, and a wider range of vitamins and minerals, and it will work more effectively again. Get it from a super food and the results may be spectacular. A synergistic combination of micronutrients is far more effective than taking the individual components. *The interactions between the components are so complex that it is best to rely on nature to create them wherever possible.* The best sources are made from wild herbs, super foods, seaweeds, peat bogs, glacial muds and natural minerals.

Most vitamins will not work without supporting minerals. We need minerals such as calcium, magnesium, phosphorus, sodium, sulphur and potassium in relatively large quantities. Others, such as barium, bismuth, boron, chromium, cobalt, molybdenum, rubidium, selenium, titanium and vanadium are essential in micro-doses, but are toxic at higher levels. Your body continually needs a minimum array of minerals just to stay alive, but optimal health requires higher levels, tailored to your individual needs.

A pill cannot possibly contain many of the living nutrients made by plants. Vegetables, fruits and herbs contain thousands of chemicals that have health and synergistic properties. At present, this area is at the forefront of nutritional science, with many of these phytonutrients still undiscovered. A daily supplement pill can provide specific vitamins and minerals that science knows we need to maintain good health in today's polluted world, but don't kid yourself that a pill can in any way make up for a beautiful, fresh multi-coloured salad, or a wide variety of vegetables, fruits and herbs on a daily basis.

A broad range of over 100 minerals is available in sea salt (page 161). If you throw away the refined table salt in your home and avoid foods made with refined salt, instead replacing it with natural sea salt, you will get a most of the minerals your body needs. A year's supply of Celtic sea salt only costs a few dollars. I strongly advise you to take this one simple action.

Most supplements are **synthetic**, made in laboratories from chemical ingredients, or extracted from natural products such as fruits, herbs or animal liver using solvents, precipitants or distillation. Some are made from petroleum or coal tar based ingredients. These chemical processes denature the minerals and vitamins, stripping away their natural synergists. Even if they are combined with other vitamins and minerals in a scientifically balanced pill, they are only partly effective. It is through sheer strength and quantity that a portion of the isolated, concentrated micronutrients in these supplements is absorbed and used.

The least **bio-available** minerals are those in the form of a simple compound such as a sulphate, oxide, carbonate or chloride.

Science has found a way of making minerals more digestible through a process called chelation, in which mineral compounds are bound to larger food molecules. The availability of most minerals is higher in the form of chelates, ascorbates, citrates, gluconates or orotates. Remember that these factory-made minerals are not naturally occurring, and are therefore foreign to your body.

By far the most bio-available minerals are those that naturally occur in your food. These ionic minerals are so effective and accessible that you need far smaller quantities of them for optimal health. The best way to get selenium for example, is to eat foods grown in soils that are rich in selenium, or soils to which a selenium supplement has been added.

If you take a vitamin C tablet, only a small portion of it is accessible to your body, and only for a short time, sometimes less than two hours. The rest rapidly passes out in your urine. However, if you eat a fresh organic orange, ripe-picked off the tree, a wide range of other micronutrients

(synergists) will support the vitamin C in it (especially [citrus flavonoids](#)). The small quantity of vitamin C in the orange is easily digestible, and will last all day.

Be aware that it is easy to get an **excess** of one or more micronutrients if you are taking supplements. In most cases this may have little effect, but it is not a good idea to take megadoses of any micronutrient. For example, selenium can be extremely toxic in high doses. A high dose of the apparently safe vitamin C thickens the blood and can lead to the formation of kidney and bladder stones. Vitamins C and E taken as antioxidants prevent some health-promoting effects of exercise.²⁴⁰

Supplements should not include any vitamins or minerals that cannot easily be excreted if they are in excess of your body's needs. The most common overdoses are:

- **Vitamin A.** This fat-soluble vitamin can accumulate in your tissues, causing nausea, bone loss, fractures and skin problems. A good supplement will contain carotene or beta-carotene instead of vitamin A, because your body can convert them into vitamin A, and any excess is easily excreted.
- **Iron.** This mineral tends to accumulate in the body rather than be excreted, and in excess it can be dangerously toxic. Women can lose iron in their blood during their period, but men have no such outlet.
- **Copper.** Many people have excess copper in their bodies (page 171).

A **hair test** is a fast and painless way of analysing the minerals and other elements in your body. Your naturopath or doctor can organise to send a sample of your hair to a laboratory. It provides a detailed report on the minerals in your body, showing whether the levels are low, normal or high. It should show a full spectrum of elements including boron, calcium, chromium, cobalt, copper, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium, zinc and many more. Toxic and heavy metals such as aluminium, barium, cadmium, lead, mercury and uranium are included. Most tests show the ratio between different minerals, along with graphs and explanations. The balance between different minerals that support or antagonise each other is particularly

important. For example, high copper along with low zinc and molybdenum will cause a range of ailments.

Hair analysis usually indicates problems earlier than a blood analysis.³⁶ It is relatively cheap, and good reference ranges have been determined, even allowing for the type of shampoo you are using. It does not involve the pain or discomfort of tissue biopsy.

ENZYMES AND COOKING

WHAT IS AN ENZYME?

Enzymes make life possible. They are essential for every biochemical reaction that takes place in your body. All your organs, tissues and cells are run by enzymes. No nutrient, mineral, vitamin or hormone can work without enzymes. Some are used for digestion, others to fight and remove dangerous microbes in your blood, yet others remove dead or damaged cells or toxins. Various glands and organs make enzymes. They are quite specific, custom-designed to do a particular task rapidly and efficiently. For example, protease is secreted in the stomach to break down proteins such as meat or egg in the digestive process. Other enzymes can transform glucose into a range of sugars, starches, fats and proteins.

A catalyst is a compound that speeds up or assists a chemical reaction, but enzymes are much more than chemical catalysts. Most catalysts only work at high temperatures and pressures, but enzymes work at body temperature, atmospheric pressure, and near neutral pH. Enzymes are essential for all the chemical reactions of life. They possess a life energy (chi) giving off radiation or electrical energy as they work.

Conventional nutrition says that enzymes in the food you eat are destroyed in your digestive system, so enzyme-rich food has no special benefits. However, research by Atturi Virtanen in Finland, A. Ohmann from Novo Nordisk, Denmark, and Kaspur Tropp in Wurzburg shows that

they are not completely destroyed, and instead produce complex new health-giving chemicals during digestion. Some enzymes are so valuable that your digestive system takes special care not to damage them.

ENZYMES IN FOODS & JUICES

Fresh, raw and fermented foods are loaded with enzymes. The foods that are richest in enzymes are foods and drinks fermented with beneficial probiotic microorganisms, vegetables and fruit picked a few minutes ago, sprouted beans or seeds, or a wild fish, bird or animal slaughtered in the last hour. These foods are nutritious and easy to digest.

Cooking, light from the sun, oxygen from the air, most reactive chemicals and the passage of time destroy the enzymes in living food.

Our time and money oriented society demands fast, cheap, attractive and convenient food. Processed foods can be stored at room temperature for long periods with no obvious deterioration. They are manufactured by destroying the enzymes and bacteria that cause fresh food to rot.

Methods include heating, irradiating with gamma or x-rays, adding sugar, salt, and a wide range of chemical preservatives, refining, pasteurising and dehydrating. They are then put in a sealed container.

Enzyme-dead foods are generally more difficult to digest and provide less nutrition. If you eat enzyme-dead food, you stress your pituitary and pancreas glands as they try to produce sufficient enzymes to digest it. Virtually every adult who has eaten processed, enzyme-dead food for years has pathologically swollen pituitary and pancreas glands. Other parts of your body, such as your brain, muscles, joints and nerves are deprived of the enzymes they need, because their components are re-directed to your digestive system. Over a number of years, your body simply does not have enough enzymes to metabolise, repair and grow, and also digest enzyme-dead food. The digestion of food takes priority, so the health of your body loses out.²⁹

If your body is youthful and healthy, it can make the enzymes it needs to digest your food and still perform all the other processes you need to stay healthy. When your body is not able to make all the enzymes it needs you

will age and suffer various illnesses. Many diseases are traceable to missing enzymes.⁷

Dr Edward Howell²⁹ argued that the unnecessary, unnatural and unabated depletion of the body's enzyme production is "one of the paramount causes of premature ageing and early death" and "the underlying cause of almost all degenerative disease." *"When it gets to the point that you can't make certain enzymes, then your life ends."*

If you eat mostly processed enzyme-dead food, it is difficult to stay slim and healthy. The active enzymes in enzyme-rich foods assist your digestive system to extract all the nutrients from the food, so you feel less hungry. Unless your digestive system is in perfect condition (a rare occurrence), the enzyme-dead food digests slowly and partially. Incompletely digested food provides a medium for harmful bacteria, yeasts and parasites to thrive. Indigestion and gas are the early warnings.

According to Dr Howell,²⁹ cooking destroys the enzymes and some other valuable nutrients in the food. If you eat a high proportion of cooked foods, your body must divert some of its enzyme production to digestive duty, thereby reducing the availability of other enzymes for the repair, growth and maintenance of your cells, antioxidant activity and other immune functions.

Heating food to a temperature of 48°C (118°F) for 30 minutes will destroy virtually all the enzymes in it. If you put your hand in water at 48°C it would feel uncomfortably hot, but would not burn you. This is not hot at all when it comes to cooking. At only slightly higher temperatures the enzymes are destroyed within seconds, not minutes.

Sources. One of the richest sources of life-prolonging enzymes is fermented foods (page 131). The freshly extracted juices of ripe, raw, organic vegetables and fruits are another good source. I am referring here to juices that you prepare yourself, not supermarket juices. Raw vegetable juices are a good source of minerals, most vitamins, and a variety of other micronutrients. Of course, continue to eat whole vegetables and fruit, because they provide the fibrous bulk that is

essential for your digestive system and the production of short-chain fatty acids.

The enzymes in fresh juices make them easy to digest if you drink them slowly and let your saliva mix with them. Drink juices in small sips, and hold them in your mouth for a few seconds. The enzymes in your saliva start to digest the carbohydrates in the juice.

High-speed electric juicers destroy a portion of the enzymes and other nutrients in the juice. The steel grater that pulverises the fruit or vegetable is spinning so fast that it generates heat on its micro-surface. The temperature of the juice is raised for a few milliseconds, enough to destroy the enzymes in that microscopic area.

Low-speed electric juicers have a slow-spinning auger that squeezes the juice out, rather than grating and using centrifugal force. The slow juicers are more adept at producing juices from a wide range of soft and hard produce. Most models can extract juice from grapes and other soft fruits, wheat grass and other leaves, and hard vegetables. In contrast, the high-speed juicers work best with carrot and celery, and have no success extracting the juice from soft or leafy produce.

COOKING

Humans have been eating cooked food long enough to have adapted to eating it every day.

The earliest use of fire is subject to debate among archaeologists, with most accepting that *Homo erectus* was using fire in the Middle Pleistocene period 500,000 years ago, at the Gesher Benot Yaacov site 700,000-800,000 years ago, or in Southern Africa 1 million years ago.²⁹¹ Steven James summarised more controversial claims for the use of fire as long as 1.7 million years ago.²²¹ There is evidence²⁹² of routine and widespread use of fire for cooking in Europe 300,000-400,000 years ago, but cooked food was almost certainly an important part of the human diet long before then.

It makes sense that use of fire is as old as the genus *Homo*. Figuring out how to start, keep, deploy, and wield fire is within the mental capabilities

of even the most primitive ancestral humans. All animals have some knowledge of fire; it is just that few of them actually want to use it.

To put the use of fire into perspective as something well within all human culture: even the kite (*Milvus*) that lives in tropical Australia knows how to light fires, and it is only a bird and not a particularly brainy one at that. This kite benefits from fire by eating scorched insects and other animals fleeing from the flames. It has been recorded picking up smouldering sticks, flying to areas beyond the fire front, and dropping the sticks to start new fires.³²¹

Fire provides protection from predators and insects, warmth, light at night and in caves, and heat for cooking as well as preparing tools, weapons or materials.

Cooking decreases the energy cost of eating, by allowing complex carbohydrates in starchy foods to become more digestible and so providing more calories. This helped early human populations to grow and spread, and allowed the calorie-hungry brain to grow in size.

Cooking meat kills bacteria and parasites. Cooking can makes tough or hard foods such as tough meat, gristle, roots and tubers softer, allowing for easier chewing and digestion.

Cooking makes some foods safer and more digestible. Most plants contain toxins as a defence against being eaten. The majority of plants are highly toxic to humans and all other animals. However, many animals have evolved digestive systems that allow them to eat some foods in their environments. Early humans have found that cooking allows the use of otherwise toxic plants such as cassava and taro, which become nutritious when cooked.

Richard Wrangham of Harvard University maintains that cooking explains the increase in hominid brain sizes, smaller digestive tract, smaller teeth and jaws and decrease in sexual dimorphism that started about 1.8 million years ago. There is evidence of continual shrinking of tooth size as humans converted from eating hard crunchy foods like crisp root vegetables to softer cooked foods and meat. He also argued that raw

meat and vegetables could not have provided sufficient calories to support a hunter-gatherer lifestyle.²²²

Protein is sensitive to heat, even low temperature cooking. Heat downgrades the nutritional value of protein. You need to double the quantity of protein to get the same nutritional input if you cook it.⁷ Cook meat at 115°C and the amino acids cysteine and lysine are destroyed. Glutamine is also sensitive to heat. Milk proteins are damaged or destroyed by heat, and the debilitating process of pasteurisation, to which nearly all public milk is subjected, is discussed on page 150.

Balance cooked / raw

Try to eat a living food diet with a high proportion of raw, unprocessed, fresh and fermented components. However, if the season (winter), the climate, your body, your sense of taste or your circumstances dictate that you wish to cook most of your food, that can still be a good diet. Taoists masters (page 215), many of whom it is claimed reached ages of over 100 years, ate mostly lightly steamed vegetables.

Many health professionals and communities promote raw diets.⁷ This means raw vegetables, fruit, nuts and sprouted grains. It also means raw (unpasteurised) dairy products and sometimes raw meat and fish. If you decide to change to a raw food diet, do it slowly – your digestive system may need several years to adapt. If you suffer diarrhoea or any form of malnutrition, it may mean that a raw diet does not suit you; that you are trying to adapt too quickly; or that you need a better understanding of your food requirements.

Cooking tips

It is possible to cook foods without destroying all the enzymes provided you keep the cooking short, keep it moist, and keep it cool. Typical Western methods of baking, roasting and frying with long periods of hot dry heat are enzyme killers. Steaming and poaching are better – they ensure that the environment remains moist, and that the temperature is close to water's boiling point. Stir-frying is also quite acceptable, provided you cook in less than a minute, and preferably under 30 seconds. I stir-fry my wet vegetables with a little oil, not too hot. The moisture content is

maintained, the cooking time is very short, and the vegetables are still crispy – the internal cellular structure is still intact.

To steam vegetables or any other foods, use a steamer that sits inside a pot, above a little boiling water. Alternatively, you can buy pots with a matched steamer that fits on top of the pot. One minute is enough for delicate vegetables such as broccoli or spinach, others may require five minutes, depending on the size you have cut them. Quickly rinse them in cold water to maintain the colour and stop the cooking.

If you boil foods that contain water-soluble vitamins, minerals or phytonutrients, you lose them unless you also drink the water.

Don't add salt to your cooking water. Salty water has an osmotic attraction to the fresh water in vegetables and draws it out of them. If you add salt to the water in which you are boiling vegetables, it will make them soggy. If you want to add salt, add sea salt after cooking. It will dissolve to form a concentrated film on the surface of the vegetables, giving a more intense flavour with less salt.

Only use saturated fats like animal fats, ghee, coconut and palm oil for cooking. Try not to cook with monounsaturated fats like olive, avocado or macadamia oil, especially at high temperatures. Definitely don't cook with polyunsaturated oils (made from nuts and seeds). See page 79.

When you cook fish, cook it lightly. This is a chef's secret – even slightly overcooked fish is tough and unpleasant.

If you have a microwave oven (page 282), limit its use. Microwaves destroy food enzymes by altering their molecular structure.

Cook the following:

Cooking helps to extract some of the nutrients from plants. Heat breaks down fibrous vegetables, husks and thick skins. It bursts open cells, breaking cell membranes to make the contents more available. It breaks down large indigestible molecules into smaller digestible molecules.

Cooking destroys some of the toxins in raw plants, which is important if you eat a limited variety of plant foods. Our early paleolithic ancestors may have eaten more raw foods, but the huge variety they had meant that they didn't bombard their bodies with the same toxins from the same raw plants every day.

The following foods need to be cooked or fermented:

- Seeds, grains and legumes need to be soaked, then cooked or sprouted. Unlike ruminants and a few other animals, the human digestive system cannot cope with raw seeds, grains and legumes. Even when they are soaked, sprouted and properly cooked (page 129), they are still a toxic newcomer to the human diet that we have not properly adapted to eating.
- Potatoes, taro, cassava and turnips should be cooked. Potatoes contain toxic hemagglutinins, and taro has cyanogenic glucosides, both of which are destroyed by heat. However, small quantities of raw potato are an excellent source of resistant starch, helping your gut bacteria to make healthy butyric acid.
- Cabbage, broccoli, Brussels sprouts and kale contain goitrogens, which disrupt the functions of the thyroid gland. Light steaming or stir-frying destroys their goitrogens.
- Egg whites (but not yolks) need to be cooked (page 134).
- A few micronutrients (such as the carotenoids in **carrots**) become more available when they are cooked. Lycopene, the carotenoid pigment that protects against prostate cancer, is not accessible from raw **tomatoes**, but is available when they are cooked, and then only if fat is present. A delicious marinara source, made with tomatoes and olive oil, is a perfect lycopene source.
- Light cooking makes the nutrients in some vegetables such as **asparagus** and **French beans**, more available. Avoid raw **mushrooms**, which contain a toxin that light cooking breaks down. Green (string) **beans** should be steamed or cooked, which destroys a digestive toxin called phasin.

Raw meat. Remember that meat is often infected with parasites.

According to the US Department of Agriculture, freezing raw meat for two

weeks destroys the parasites. Marinading the minced or thinly sliced meat in an acid such as lemon juice, vinegar or raw, sour liquid whey is another traditional approach to destroying parasites.

Raw fish (particularly cod) sometimes has parasites, and infections occur frequently among Japanese and Korean people who eat raw fish such as sushi or sashimi. Fish loses its flavour and texture when frozen, so marinading the fish for a few hours in lemon juice or sour liquid whey is a better solution.

Smoking and sun drying are other solutions to parasites and spoilage that have been used for centuries.

Raw fish must be subject to scrupulous hygiene and freshness standards, especially if it has been farmed rather than caught wild. Raw wild fish is arguably the most nutritious source of protein – rich in enzymes, omega-3s and easily digestible.

Warning – do not eat raw meat purchased from a general butcher or supermarket. Abattoirs are the most unhygienic places. If any animals are sick or infected with parasites, the infections will find their way into the other meat. Poultry is worse, with the carcasses being de-feathered in baths with rotary feather pullers. These baths are a mix of feathers, blood, excreta and dirt. Raw chicken carcasses are positively dangerous, as is any juice that thaws out from them. If you eat supermarket meat, it must be cooked for your own protection.

SOAKING AND SPROUTING

Many people find they do not thrive on legumes, grains, seeds, nuts and products such as breads, cakes or bean dishes made from them. Do you suffer from indigestion, flatulence, heaviness and other maladies after eating them?

Dry grains, seeds and legumes contain enzyme inhibitors that keep them dormant until they are soaked and start to sprout. One of the inhibitors is

phytic acid (an organic acid in which phosphorous is bound) in the outer layer or bran. The enzyme inhibitors make dry grains, seeds and beans indigestible. Phytic acid also reacts with many essential minerals such as calcium, magnesium, copper, iron and especially zinc, and stops their absorption in your intestines.

Cereals, seeds and legumes also contain a variety of other toxins that protect the plants from predators, and make them indigestible to primates (page 28).

A diet with grains and legumes that have not been sprouted or soaked can lead to serious mineral deficiencies and bone loss. Breads and other products made from flour that has not been wet for at least seven hours have a similar effect. Most commercial breads, pastries, biscuits, cakes and so on are made from un-soaked flour.

It is best to soak any seed, grain, nut or legume before use. A minimum of seven hours soaking in water de-activates some of the enzyme inhibitors and other toxins. Soaking, fermenting and sprouting also break down gluten and other difficult-to-digest proteins into simpler components that are more easily digested. A day or two after soaking they should start to sprout. Sprouts are especially valuable because the nutrient content multiplies many times, and they become easily digestible after germination.

Many traditional cultures that use grains or seeds first prepare them by soaking or fermenting. In India, rice and lentils are soaked for at least two days; in Africa and South America, corn or millet are fermented for several days; and in Europe grains such as spelt and rye were soaked or fermented for several days.

Sprouted or fermented grains and traditional sourdough breads are easy to digest, and contain a range of micronutrients including antioxidants made by the bacteria and yeasts. In contrast, commercially baked bread made from milled dry grains and fast acting yeast is prepared and baked in less than a few hours. No *lactobacilli* are involved, only one strain of yeast is used, and the conditions are not suitable for neutralising enzyme inhibitors and breaking down gluten.

Sprouts are a living, enzyme-rich food. Their vitamin A content will usually double, various B group vitamins will be 5 – 10 times higher, and vitamin C will increase by a similar order. Their protein content becomes easily digestible, and new nutrients such as enzymes and phytonutrients are created. They contain significant amounts of bio-available calcium, iron and zinc.

When a dormant seed sprouts, its protective toxins are disabled, and its starch is converted into simple sugars. Long chain proteins are split into smaller more easily digestible molecules.

Here is the [Grow Youthful web page on sprouting](#).

Essene bread is a traditional food, made the way the first breads were - from sprouted grain, baked in the sun or at very low temperature. It is dense and heavy, full of flavour, and contains soft, sprouted, whole or lightly minced grains. It does not contain flour, added yeasts or any other ingredients.

FERMENTED FOODS

As you age, your digestive system gets weaker. If you have abused it with grains and processed foods, your stressed and weakened digestive system becomes the root cause of a range of ills.

Fermented foods are like pre-digested food. They are an excellent source of easily digestible living food for a weak digestive system. Fermentation increases the vitamin and enzyme content of foods. A regular intake of fermented foods containing friendly bacteria heals your digestive system and lowers the call on your digestive enzymes.

Fermented foods colonise your intestinal tract with friendly flora. Lactic acid destroys harmful intestinal bacteria. *Lactobacillus* and other beneficial bacteria keep a control on the population of harmful and putrefactive bacteria, maintain proper acid balance in your colon, and increase the frequency and bulk of bowel movements.

Human populations that consume a large proportion of fermented foods in their diets enjoy superior health and longevity. For example in Georgia, Russia, where many of the villagers live to over a century, they consume fermented vegetables, kefir, and yogurt and sour milk (made from raw, not pasteurised milk) and sourdough bread.

Almost every culture includes a variety of fermented foods in its diet. Over the millennia, beneficial microbial strains have evolved that prevent spoilage, fight infections, and increase the absorption of nutrients. For centuries European people made yogurt and kefir from milk. Fermented cabbage is enjoyed by the Germans (Sauerkraut), Koreans (Kimchee) and Japanese. A variety of fermented vegetables is an important and delicious source of nutrients, especially in the winter months of Europe. In previous centuries, Sauerkraut was a boon to people living in the northern regions of the world during the winter, when a thick blanket of snow covered the ground. It sustained their health during the months when no fresh fruits and vegetables were available.

The Chinese and Japanese have a long tradition of using fermented bean products such as salted black beans, soy sauce and miso paste. Various types of miso can also include grains, beans, seaweed and spices such as ginger. The Indonesians make a fermented soybean called tempeh. Thai cuisine includes a pungent fermented fish sauce called nam-pla.

Eating or drinking fermented foods with your meals aids digestion, helping break down proteins and carbohydrates. That is one reason why wine and beer go so well with a protein meal.

You can make several fermented health and longevity drinks yourself. Kombucha is a delicious detoxifying drink with hundreds of healing properties. Kefir is a fermented milk product that is reputed to be the secret of long life and health among the Caucasians. Rejuvelac is a living, enzyme-rich drink that heals your colon. You can also use it for the production of other raw and fermented foods.

Your intestines have evolved into a perfect bacterial farm. You provide the microbes in your gut with food and in return, they produce beneficial nutrients and help defend you from pathogens.

Beneficial microbes help you to fight infections. The competition between microbes is fierce, and the good bacteria that are the normal inhabitants of our guts fight off many foreign intruders. They are your first line of defence in the war of infection. For example, *lactobacillus acidophilus* produces several substances while fermenting milk, including acidolin, acidophillin, lactobacillan, and lactocidin. These substances inhibit pathogenic bacteria like *salmonella*, while leaving other friendly lactobacilli and human cells unharmed.

Harmful microorganisms. If you are healthy, the vast majority of microorganisms inside your body will be beneficial. However, there will always be a small proportion of harmful bacteria and yeasts waiting for an opportunity to multiply. Antibiotics indiscriminately destroy a large portion of the bacteria in your digestive system, leaving all kinds of fungi free to multiply with no bacterial competition. If you have a weak digestive system, eat foods that are rich in sugar and refined carbohydrates, or consume processed foods, you can produce a sugar and nutrient rich, pH neutral medium in which harmful microorganisms can thrive. They can ferment (causing gas), and harmful bacteria or fungi can build-up in your gut or other parts of your body. An overgrowth of unfriendly bacteria and yeasts can cause all kinds of problems, including candida, Crohn's disease, ankylosing spondylitis, and irritable bowel syndrome.

Beware of supermarket bread and old food that may be mouldy. Peanuts, legumes and grains are also widely affected with fungi.

The fermented foods and drinks recommended in *Grow Youthful* can assist in healing fungal and other infections. Gardening and getting your hands dirty in healthy soil, going for a walk and taking deep breaths in pristine forest or woods, swimming in clean ocean and getting out in nature are all sources of good bacteria for your body. In contrast, excessive cleanliness, drinking and bathing in chlorinated water, and many cleaning chemicals, drugs and excessive alcohol can destroy the good bacteria in your body.

FOODS TO INCLUDE

EGGS

Eggs are a rich source of just about every nutrient. The whites are a good source of protein, and the yolks are a treasure trove of vitamins and valuable fats. Eggs contain fat-soluble vitamins A and D, the B vitamin choline, folate, long chain fatty acids EPA and DHA, and many other nutrients. They are probably the most complete, nutritious and economical form of animal protein available.

Eggs are a good source of cholesterol, which is now known to be beneficial and healthy (page 79). Eating a couple of eggs per day is likely to lower your LDL cholesterol level.¹²⁷

Try to buy the best quality eggs that you can find – from hens free to range in pastures where they can stretch their wings, eat fruits, plants and seeds, and scratch around for bugs and worms. If you can find them, buy organic free-range eggs or Omega-3 enhanced eggs from hens whose diets are supplemented with flax seed, chia seed or purslane. These eggs have an Omega-6 to Omega-3 ratio of virtually one-to-one, compared to commercial supermarket eggs with a deficient ratio of 17 to one.

A healthy egg has a strong shell, a dark yellow or orange yolk, and a white with two clearly defined parts – a thick part surrounding the yolk, and a thinner section on the outside.

Ask what date they were laid – you will often find eggs are at least a month old when you buy them from a shop.

Most commercial eggs come from chickens cooped up in small cages under bright lights and fed on dry feed laced with synthetic hormones and antibiotics. Such eggs are not a living, nutritious and wholesome food. They have virtually no Omega-3 and contain low levels of vitamins and other nutrients. Hens need sunlight, exercise, and insects in their diet. If the hens are not free to live as they are meant to, they get sickly and simply cannot produce healthy food for humans.

Egg whites contain avidin (which interferes with the absorption of biotin) and trypsin inhibitors (which upset protein digestion). Lightly cooking the egg white will neutralise both these anti-nutrients. In contrast, try to eat the yolk raw.

A high proportion of the proteins and nutrients in an egg are destroyed by over-cooking. The best way to cook eggs is soft-boiled or lightly poached, with the whites solid and the yolks remaining soft. This retains most enzymes and nutritional value.

A study⁴⁰ of the egg consumption of 120,000 people found that men and women who ate an egg every day were no more likely to suffer from heart or artery disease than those who ate one egg per week. I feel that if they had been consuming organic free-range eggs rather than battery eggs, the case for eating eggs would have been much stronger.

FISH

Cold water fish are an excellent source of Omega-3s and an easily-digestible form of protein, rich in trace minerals that are no longer available from crops grown on depleted land.

Fresh fish does not have an unpleasant or fishy smell – it has a salty ocean aroma. The gills are bright red, rather than pink or grey. If you poke it with your finger it should spring back rather than forming an indentation. Its eyes should be clear and protruding, rather than sunken and opaque.

The sea is accumulating increased levels of pollution. The most affected fish are large carnivorous fish higher up in the food chain such as shark, marlin, tuna, swordfish and mackerel. Shellfish are particularly adept at picking up heavy metals. Do not eat any fish or seafood caught in polluted waters near industry, mines and cities. Stay clear of oysters and mussels taken near cities and sources of pollution, fish caught in rivers you are not familiar with, or fish caught other than in the open ocean or a pristine coast. This is particularly important if you are pregnant.

Try to use fresh rather than canned fish. Canning causes a number of problems, the least of which is the loss of fresh flavour. The fish is cooked

at high temperature and then sealed in a can with refined salt, water and a high-omega-6 oil. The majority of vitamins are lost. The healthy cholesterol in the fish is oxidised (25-hydroxycholesterol), creating an atherosclerosis-causing molecule. If you do eat canned fish, use a no-salt, olive oil or spring water variety.

FRUITS (in moderation)

A fruit is any part of a plant that contains seeds. Several fruits are commonly used as vegetables, such as tomatoes, squashes, olives, cucumbers, eggplants and avocados.

Try to eat something from each of the following groups, provided they are in-season and grown locally:

- The citrus family, including oranges, lemons, grapefruit, limes, tangelos, cumquats and tangerines, are high in vitamin C and some organic acids.
- Berries and grapes, especially the black and purple coloured fruits, are rich in antioxidants and anti-inflammatory agents.
- Red fruits. Tomatoes are especially valuable, though they are one of the few fruits you need to cook to release their lycopene, a powerful antioxidant.
- Yellow or orange fruits. This includes stone fruits, bananas, apples and pears, and tropical fruits such as paw paws, mangos, passion fruit and custard apples.

Fruits and vegetables are a good source of potassium, magnesium and other minerals. The range of micronutrients in fruits is so high and valuable that most people should eat at least one fruit every day.

Generally, fruits digest more quickly than vegetables. Melons are the fastest digesting of all, so fast that it is best to eat them on their own rather than combine them with other foods (page 57).

Fruits have higher sugar content than most vegetables. For this reason, the major part of your diet should be vegetables rather than fruit. Fruit sugar is mostly fructose (page 64) the bad sugar and cause of [overweight](#)

[/obesity](#). Because fructose is so harmful, it is important that fruits provide only a small portion (less than 10%) of your total calories.

Some specially bred sweet fruits are actually harmful, especially in large quantities. Most supermarket fruits (Frankenfruits) are bred to be intensely sweet, large, and attractive-looking. Try to avoid them, especially if you are overweight or have any kind of liver problems. Instead, try to consume tart fruits and heritage fruits (page 42).

VEGETABLE JUICES

Vegetable juices are an excellent and concentrated form of nutrition provided they are freshly made from ripe organic produce, using a hand operated or low-speed electric juicer. They are rich in vitamins, minerals and enzymes.

Fruit, beet and carrot juices are full of sugar, mostly fructose. A glass of carrot juice contains as much sugar as a candy bar. Try to avoid the sweet juices, especially if you are overweight or suffering from candida or any of the symptoms of metabolic syndrome.

Other vegetable and herb juices are not as sweet, but they are still so concentrated that a small 100 ml glass per day should be more than sufficient to gain a good boost of micronutrients. It is a good idea to dilute it with water, drink it slowly, and spread it over the day.

Try to avoid supermarket juices. Few of them contain unprocessed juice. Most have been spoiled with heat, concentrates, additional sugars, colouring and preservatives.

NUTS (from trees)

Tree nuts are a source of protein, resistant starches and many other micronutrients. A large handful of nuts might contain 200 calories, so they are not something you snack on indiscriminately. Add them to vegetable dishes and occasionally use them in your main dishes for delicious flavour, texture and nutrition.

Nuts are high in fat, mostly polyunsaturated and monounsaturated oils. Except for macadamia nuts, most nuts are high in harmful omega-6s, so this is another reason that you should not eat large quantities of nuts, though a small handful most days is beneficial.

Eat nuts raw and freshly harvested. They are likely to be fresher if you buy and store them in their shells. Crushed, slivered and chopped nuts are often rancid. Stale nuts lose most of their nutritional value, their oils can go rancid, and they are prone to moulds.

Another problem with eating large quantities of nuts (and seeds) is that they are high in copper. Many people suffer from copper accumulation (page 171).

Dry nuts contain an enzyme inhibitor that makes them difficult for some people to digest. If you soak them in water for 8–12 hours, this deactivates the inhibitor, softens their fibres, and makes them more digestible.

If you absolutely have to toast your nuts, cook them lightly at a low temperature. Even better, dehydrate them at a temperature of less than 48°C (118°F).

Avoid peanuts, which are a legume rather than a tree nut.

MILK MADE FROM GRAINS & NUTS

You can make delicious, digestible and nutritious tree nut milks with your blender. Several seeds and grains also make milk, though they should only be used in smaller quantities.

My favourite is almond milk. I love the flavour, use it with my muesli, to make custard, ice cream, sauces and soups. By varying the amount of water, you can make it as thin as milk or as thick as cream. You can use any kind of tree nut, or various seeds and grains. I have made delicious milks from sesame seeds, poppy seeds, rice, oats and barley, in addition to almonds, hazels, cashews, brazils and other tree nuts.

To make milk, soak a cup of nuts or seeds in water for at least seven hours. Rinse them with a sieve, then put them in a blender with a litre of water. Give them a thorough blending, so the nuts end up smooth.

Put a cheese cloth in a large sieve, and place it over a bowl. Pour the blended mixture through the cloth. After a few minutes, lift up the edges of the cloth, twist and squeeze out the remaining milk. This step is optional – some people like to keep the nut meal in the milk.

Tree nut milk should not be heated as it destroys their enzymes and essential fatty acids. Some milks such as sesame milk, tend to curdle if they are heated.

You can add a culture to the milk, to make it an easily digestible living food. Cultured nut and grain milks and cheeses tend to store a lot longer, and develop some delicious flavours. Try adding kefir grains, or rejuvelac. Kefir grains will not reproduce in nut or grain milk.

If you keep the milk chilled, it will last for several days before going sour. When it sours, it is still a highly nutritious drink. If you leave it long enough it will curdle. You can put the curds in a cloth, gently squeeze them, and make a nut cheese.

The protein content is easily digestible, especially if the milk has been cultured. The oil content is high if you are using some types of nuts rather than grains.

Unfortunately, seed and nut milks contain mostly polyunsaturated oils, so they are not suitable for use in large quantities every day.

A problem is that most nut milks (except milks made from pumpkin seeds and macadamia nuts) are high in Omega-6 essential fatty acids, and low in Omega-3's (page 85).

Nut, seed and grain milks are available in most supermarkets and health food stores. The commercial nut and grain milks are often spoiled with added sugars, emulsifiers, stabilisers, thickeners and bad oils.

OILS

As much as two thirds of your total calories should come from the good fats/oils in your diet. For real health use saturated fats and not carbohydrates to provide most of your calories.^{206, 207, 400} The section on fats (page 79) explains why coconut oil, butter, ghee, cream and all animal fats are so good for you. They are NOT the cause of obesity or heart disease.

Vegetable fibre is converted to short-chain fatty acids such as butyric acid by the bacteria in your gut. This is one of the reasons that vegetables are so beneficial – they are a source of health-producing oil and energy.

VEGETABLES

A vegetable is any part of a plant that does not contain seeds. This leaves us with flowers (including the large flowers of cauliflower and broccoli), stalks and stems, leaves, roots and bulbs.

Vegetables should make up the major part of your diet. They are the earth's most effective alkalisers, especially when consumed raw in salads or as freshly extracted juices. Vegetables are rich in nutrients, digest easily, and combine well with all other foods. They contain fibre, chlorophyll, minerals, vitamins and a wide range of phytonutrients that provide wonderful health and synergistic effects.

Hundreds of studies have shown that people who eat plenty of fruits and vegetables dramatically improve their digestion, and reduce their risk of getting any degenerative diseases.

Try to eat at least five, and preferably nine different pieces or serves of vegetables or fruit every day. They should be in season, organic, ripe-picked, as fresh as possible (preferably minutes since picked). Eat as much as you find palatable raw, though some vegetables such as tomatoes benefit from cooking (see page 124). This is a foundation for radiant good health and longevity.

Each individual vegetable or fruit probably contains hundreds of phytonutrients, and each family thousands. Nevertheless, no single

vegetable or even family of vegetables contains all the nutrients you need. Many contain harmful compounds, and that is why variety is important. For example, parsley, sorrel, spinach, chard, rhubarb, tea, cacao/cocoa/[chocolate](#) and beet greens contain oxalic acid (page 148).

I suggest eating a few servings every week from each of the families (except legumes), provided they are in season. The different families also complement each other with different colours and textures. A rainbow-coloured salad of dark green beetroot or spinach leaves, ripe red tomatoes, bright orange grated carrots and smooth green avocado for example, makes an attractive dish. Vegetables can be classified into the following families:

- Umbels include carrots, celery, parsnips and parsley. Carrots are one of the best sources of beta-carotene.
- Lilies include onions, shallots, leeks, garlic, chives and asparagus. They are high in sulphur containing compounds such as allicin, which protect against cancer.
- Melons and squashes include pumpkin, zucchini, cucumbers and butternut. Cantaloupes and honeydew melons that are usually eaten as fruits are also included in this family.
- Crucifers include broccoli, Brussels sprouts, cabbage, cauliflower, radishes, kale, collard, mustard greens, turnips and watercress. Some of the phytonutrients in this family seem to be able to protect mucous membranes, especially in the lungs and digestive tract. They are effective guardians against cancer, ulcers and infections in these organs
- Solanums (**nightshades**) include eggplants, potatoes, peppers and tomatoes. Page 159 explains why many people do not eat nightshades.
- Legumes include all kinds of beans and pulses. They are high in protein and fibre. However, they also contain toxins such as lectins, alpha amylase inhibitors, trypsin inhibitors, cyanogenic glycosides and others. Fresh green peas, snow peas and green string beans are an exception – see Legumes below.

PRODUCTS TO AVOID OR REDUCE

In 2005 Americans got 23% of their calories from grains, 17% from sugar and HFCS, 22% from polyunsaturated oils, and 3% from legumes.²²⁹

Americans get two thirds of their calories from toxic or blood sugar spiking sources that Grow Youthful eliminates.

ALCOHOL

A fine wine is one of life's pleasures. Many studies⁴⁴ show that a limited amount of alcohol can be beneficial, more so for people over the age of 40. Up to one drink a day for women, and one or two a day for men reduces the risk of dying from heart disease by about a third, and also reduces the risk of a stroke or diabetes. Moderate alcohol consumption raises the level of HDL, the good form of cholesterol. Most adults who do not suffer from depression or have a history of alcoholism will benefit from a daily drink before their main meal, particularly men who are at risk of heart disease. However, if you do not already drink alcohol, I do not think the benefits are a good enough reason to start.

Alcohol can destroy the liver, damage the brain, cause cancers (including breast cancer), heart and artery disease, and severely damage fetuses. The risk of cancer is higher if you drink alcohol, especially if you have insufficient folate in your diet.

Saturated fats in your diet protect the liver from alcohol.⁴⁹ However, polyunsaturated fats react with alcohol, causing gut dysbiosis and endotoxemia.⁷⁴ Do not consume alcohol with polyunsaturated fats, as this combination has a strong association with cancer.²¹⁹ Yet another reason to avoid grain oils.

Alcohol dehydrates the body and the brain cells. It is one of the few substances that can bypass the brain's dehydration protection mechanisms.

Alcohol raises your insulin level. Long-term drinking can contribute to metabolic syndrome or diabetes.

Women trying to get pregnant, or who are in the early stages of pregnancy, should not drink any alcohol. It severely inhibits growth and development of the foetus, particularly the brain and the nervous system. It affects the foetus during the first few days of pregnancy, well before the mother knows she is pregnant.

Grape wine contains an antioxidant and anti-inflammatory called resveratrol. It protects against heart disease, cancer and many other diseases. It comes from the stems, leaves and skins of grapes, and is significantly higher in red wine as opposed to white, because the fruit sits in the wine for a longer period. High quality wines have higher levels than cheap plonk. Raw grape juice contains about a third as much resveratrol as red wine. One or two glasses of red wine per day seem to provide good antioxidant protection.

Other antioxidants are also found in wine and beer. Fermenting yeasts produce some antioxidants, as do the malt and hops used in beer.

ALLERGIC FOODS

A large portion of the population suffers from food allergies or sensitivities. Most people with inflammatory diseases have allergies to certain foods or chemicals. The most common allergic foods are wheat and other grains, pasteurised dairy products, eggs, nuts (especially peanuts), oranges, beef, chilli, chocolate and coffee. Nightshades often cause sore and painful joints.

A good test is to avoid all those foods for at least three weeks, and then start eating them again, one by one. Note any reactions during the days after you re-introduce each food. The affects to look for are feelings of a full stomach, gas and bloating; increased mucus production; a loss of energy; and skin rashes. Skin inflammations, insomnia, joint pain, headaches and hoarseness are other symptoms to look for. Pay attention to how the food affects any particular ailments that you have.

A faster test is to avoid all suspect foods for at least four days. Then eat a moderate amount of one of the foods on an empty stomach. Test your pulse before eating the food, and minutes after the meal. Preferably, test

it again during the following hour or two. Assuming that you have not changed your level of exertion, if your pulse rises by more than a few beats per minute, or if you feel any adverse reactions, then you are probably allergic to that food.

An even quicker test is to avoid the suspect foods for a day. Sit down and relax for a few minutes to let your pulse rate settle. Have a teaspoon or bite-sized piece of the food next to you. Take your resting pulse – perhaps it is 64 beats per minute (60 bpm). Without getting up, take the food in question and place it on your tongue and let it sit there for about 20 seconds. Test your resting pulse again while still sitting in the same position. There should be no other variables that would affect your heart rate.

If your heart rate is still the same or there is only a 1 bpm difference, you are probably not sensitive to the food. If there is an increase of 2-3 bpm then you may be sensitive to it. Test again on a different day to confirm. An increase of 4 bpm or more means the food in question is causing a stress response. Do the test again, and if you still have the strong response then avoid that food.

If you are allergic to a food, sometimes eliminating it for six months will remove the problem. Start eating it again in small quantities, but not every day. If the allergy has disappeared, still only consume that food in moderation.

ARTIFICIAL SWEETENERS

Aspartame, acesulfame-K, cyclamate, neotame, phenylalanine and saccharin are chemicals used as artificial sweeteners, sold with names such as Crystal Light, Equal, Nutrasweet and Spoonful.

Artificial sweeteners are widely used in most processed foods and other products ranging from toothpaste to painkillers. On a modern Western diet and lifestyle, they are difficult to avoid.

Although they contain no calories, they stimulate the urge to overeat. Research has shown that you can be inappropriately hungry for up to 90 minutes after drinking a can of diet soft drink. The sweet taste on your

tongue tells your brain that says sugar is on the way. Your pancreas secretes insulin into your blood, your liver stops producing glucose, and instead starts to store calories. However, no sugar arrives from the diet drink, so your blood glucose level shoots down and you feel hungry. A couple of years of this abuse can cause diabetes.

Research also shows that artificial sweeteners alter the bacterial balance in your gut biome.⁴⁰² After just a week of consumption, a study showed that the gut bacteria of both the mice and people were altered, causing raised blood glucose levels, raised insulin levels, and glucose intolerance. The paper concluded that regular consumption of artificial sweeteners causes obesity, diabetes and other ailments related to glucose control.

Aspartame is highly addictive and people who have been drinking soft drinks (soda), chewing gum and eating diet foods for an extended period find them almost impossible to give up. Aspartame produces methanol and other toxins in your intestine. Aspartame and saccharin break down into a number of toxins (including formaldehyde) when heated or fermented. They are associated with mental and emotional problems such as epilepsy, and Cyclamate has a high association with various cancers, particularly brain cancer. The wide variety of diseases that artificial sweeteners cause are difficult to connect to their consumption because for most people they only occur after a number of years. For example, multiple sclerosis is often misdiagnosed when it is a reaction to drinking a couple of cans of cola per day. Avoiding all artificial sweeteners leads to a rapid recovery.

Sucralose is a chemical made by modifying sugar. It is 600 times sweeter than table sugar, and is sometimes sold under the name *Splenda*. It is stable, is not easily broken down during digestion, and for some reason does not seem to produce as big a rise in blood insulin. Nevertheless, it is not a food, and like any other manufactured drug or chemical it has side effects, and may not be eliminated from your body.

If you absolutely have to sweeten your food, a good natural herbal alternative to both sugar and artificial sweeteners is stevia. Another sugar-like alternative is Xylitol (page 108). *However, after you get off a*

processed, sweet refined food diet, you will find that as your sense of taste returns to normal you will no longer want to sweeten anything you eat or drink.

BAD OILS

Bad oils (page 94) are oils made from grains/seeds, legumes, and some nuts. These vegetable oils often appear as hydrogenated or partially hydrogenated oils, trans fats, oils extracted under high temperature or pressure, old oils and re-heated oils. They include margarine, vegetable shortening, soy, canola, corn, sunflower, safflower and cotton seed oils. Most of these fats did not exist before the twentieth century, and they are a prime cause of many modern degenerative diseases and rapid ageing.

Bad oils are cheap, and have properties suitable for processed food and a long shelf life, so they are widely used in take away foods and the food processing industry. Commercial deep-fried food and particularly fast food are guilty of using old and re-heated oils. Heating, cooling and then re-heating oils severely damages them.

To gain real health, you need to avoid all golden vegetable oils made from seeds and legumes – canola, corn, cottonseed, grape seed, mustard, peanut, safflower, sesame, soy and sunflower. Stay well away from biscuits, snack foods and baked foods that usually contain trans fats and hydrogenated oils.

BEANS (LEGUMES)

Legumes are a source of non-animal protein, especially for those who choose to be vegan or vegetarian.

Like grains, beans/legumes/pulses are not a food with which early humans evolved. Legumes are difficult to digest and cause gas and digestive problems, especially if not prepared properly. Legumes are toxicologically similar to grains (page 33). They contain lectins, amylase inhibitors, phytosterols and other toxins that can cause a leaky gut, heart disease and liver damage.^{296,297,302,303,304,305}

Raw or undercooked legumes are indigestible and highly toxic. Cooking them for long periods destroys some of their enzyme inhibitors and other toxins, but they will still cause flatulence and may inhibit your absorption of minerals. However, the toxin canavanine resists both soaking and cooking.

The secret with beans and a wide variety of other seeds and grains is to sprout them. Sprouting makes them more easily digestible, and a source of live enzymes, as discussed on page 129.

Most people undercook beans – they need 1-4 hours to cook properly, depending on the type of bean. Keep them well covered with water, as they swell 2-4 times their size and take up lots of water.

Another secret with beans is to add a little seaweed to the cooking water. A 3-5 cm (1-2 inch) piece of kombu (kelp) adds to the flavour, softens the beans, and makes them more digestible. Seaweeds contain natural beneficial glutamates, in contrast to toxic monosodium glutamate (MSG) that is added to most processed food.

Do not add salt to the cooking water. It slows the water absorption, makes the beans hard and adds to the cooking time.

Chickpeas (also known as Garbanzo beans) are one of the least indigestible legumes. They are traditionally used to make hummus, and are widely used in Middle Eastern cuisine. The next most digestible beans are aduki beans, lentils, mung beans and peas. Less digestible are Pinto, Kidney, Navy, Black eye, Lima and Black beans. Hardest to digest are soybeans.

Pick through any legumes or grains before you use them, and remove any stones, discoloured, withered and broken items. Mouldy legumes are toxic. The misshapen and broken pieces will not sprout, and can go slimy when you soak them.

The **vegetables green peas** including fresh green peas, snow peas and sugar snap peas and green string beans are nutritious and have such low levels of toxins that they are quite acceptable.

BURNED FOOD

Try not to eat charred foods, or food cooked to a dark brown. Cut the burned food away. This includes burnt toast and cakes, flamed and barbequed meats, and cheese toppings grilled until crispy. All the nutrients in burnt foods are destroyed by such overcooking, and they are loaded with free radicals and carcinogens.

CAFFEINE

This addictive drug and dehydrating agent is present in most soft drinks, coffee, tea, sports drinks, guarana, cacao/cocoa/chocolate and cigarettes. It has diuretic properties, acting on the kidneys to increase urine production. It is the perfect additive for soft drinks, with an average of 50 mg per can – you can drink many cans every day, and still never be satisfied.

After having had a caffeine drink, most people do not realise they are thirsty, and rather than drinking water they resort to (over) eating.⁸ An ironic effect of drinking soft drinks regularly, especially diet drinks, is obesity.

Caffeine stimulates your body by causing a spike in your blood glucose level, giving a short-term boost to your energy. However, this causes your insulin level to rise excessively. The constant or excess use of caffeine depletes your ability to store energy (metabolic syndrome), and can give you the shakes, make you irritable, keep you from sleeping, reduce your long-term attention span and suppress your energy level. Caffeine inhibits the uptake of calcium (page 239).

Contrary to popular belief, a number of studies have shown that caffeine reduces your ability to remember lists of words. It slows down your ability to process ambiguous or confusing stimuli, and reduces your ability to focus. The affect is worse if combined with alcohol.

Coffee is high in caffeine, with an average cup containing around 85 mg. Do not drink coffee to the point where it causes the above symptoms. I suggest enjoying just one cup per day. Caffeine-free coffee is an option, but still drink it in moderation as it is usually de-caffeinated using

petroleum based solvents. If you find coffee does not digest well, try it without sweeteners, especially sugar.

After it is ground, the oils in coffee easily go rancid. Try to use fresh, whole organic coffee beans, and grind them just before you make a brew.

Heavy coffee drinkers have an increased risk of bone loss or osteoporosis (page 239), and reduce their effectiveness in digesting minerals, particularly calcium.

Coffee contains low levels of cadmium, which can build-up in your body if you drink it regularly.

In defence of coffee, real, fresh ground beans are a rich source of antioxidants. Would you believe that coffee is the main source of antioxidants for all North American adults, and many other populations?

173,174,175,176,177

Moderate coffee consumption is beneficial in many ways as detailed at :

<http://www.growyouthful.com/tips/coffee-antioxidants.php>

Studies that show that regular tea and coffee drinkers have substantially lower “all causes” death rates than non-drinkers. Coffee’s delicious flavour and aroma relax you to the point that it can act as a mild antidepressant. Several studies have shown that suicide rates are as much as 50% lower among coffee drinkers than non-coffee drinkers. Coffee has a number of other benefits, such as lowering your chances of developing kidney stones and gallstones.

Tea (black tea). The caffeine content of tea ranges from 2.5% to 5.5% by weight, or 50 mg in a typical cup of tea. In the tea plant, caffeine is most concentrated in the tips of budding leaves. Strong pick me up teas have a higher proportion of these new leaves. Tea twigs have the least amount of caffeine, and the most minerals. Twig teas are sold as kukicha or bancha twig tea. Green tea contains less caffeine than black tea.

The tannin in black tea prevents the uptake of many valuable minerals, particularly zinc and iron. Tannin also inhibits the digestion of protein. If you drink black tea (with or without milk), it is best not to have it less than an hour before or after a meal.

Oxalic acid is another harmful ingredient in tea. It blocks the absorption of some minerals (particularly calcium, iron, magnesium, sodium and potassium) and irritates the digestive tract. Green tea has about one-fifth the level of oxalic acid as black tea.

On the plus side, tea has some of the same benefits as coffee. It is refreshing and may lower your risk of getting kidney and gallstones. It also contains antioxidants.

Green tea is far more beneficial than black tea. I recommend green tea as a regular drink. Drink it diluted, the way the traditional Chinese do – just a small pinch of tealeaves in a whole pot. That way, the caffeine content is negligible. Green tea is rich in flavonoids (black tea has a lower level) that protect against cancer.

Here is how to **decaffeinate** your tea. Pour hot water into a cup or pot, and then gently insert the tea bag, leaves or infuser. Leave it for 10-20 seconds without jiggling, and then discard the clear-coloured water. It will contain most of the caffeine from the tea, because caffeine is highly water-soluble. Now make your tea with a second batch of water in the normal way.

DAIRY PRODUCTS

You may be surprised to learn that most human beings do not drink or use milk. The only animal-sourced carbohydrate in our diets is lactose, the sugar in milk. It requires the enzyme lactase to digest it, and many people, especially Asians and Africans, do not produce lactase after they are weaned in infancy. Generally, only the digestive systems of people of northern European origin (Caucasians) and the Saharan region make lactase throughout their lives. Only about a quarter of the world's adults are capable of digesting non-fermented milk. For most adults drinking a glass of milk has immediate consequences like nausea, cramps, bloating and diarrhoea.

Over the centuries, humans have consumed milk in a fermented state as curds and sour whey, yogurt, kefir, cheese, clabber, kumis, airag and many other forms. The lactic acid-producing bacteria break down the milk sugar (lactose or galactose) and milk protein (casein), making it more digestible. After the friendly lacto-bacteria have produced enough lactic acid to de-activate any putrefying bacteria, the product is preserved for weeks or in the case of cheese for years.

Many misguided dieticians and nutritionists say that pasteurised dairy products are a safe and essential food group. Schools and even hospitals have included pasteurised milk in their meals for years. However, the process of pasteurisation makes milk so indigestible that it is actually the cause of many degenerative diseases.

Hundreds of scientific research publications^{69,125,137,407} indicate that pasteurised cow's milk may cause allergies, asthma, ear infections, tonsillar infections, intestinal bleeding, colic and diabetes in children. Among adults, pasteurised milk may be responsible for heart disease, arthritis, allergies, sinusitis, leukaemia, lymphoma, multiple sclerosis, osteoporosis and cancer (especially prostate¹³⁷ and breast cancers). Many degenerative diseases have disappeared after eliminating pasteurised dairy products from the sufferer's diet.

Galactose (page 64) is a toxin in excess of small amounts, producing mucus and damaging the liver among other problems. It may be responsible for accelerated ageing.⁴⁰⁸

Lactose has a severe effect on your blood insulin level, even though it does not spike your blood glucose.⁴⁰⁵ Milk products such as milk, yogurt and ice cream have a low relatively low glycemic index. However they are highly insulinotropic, raising your blood insulin as much as eating a similar amount of white bread.⁴⁰⁴ This means that these sweet milk products, and especially low-fat dairy products or products that contain powdered milk or "milk solids" should be avoided. On the other hand, ghee, butter, cream and high fat cheeses and other high fat dairy products do not have this insulin-raising effect.

It is ironic that these low GI dairy products are some of the worst offenders in raising your blood insulin. Low-fat dairy products make it almost impossible to lose weight, and the raised blood insulin they cause leads to rapid ageing and a variety of degenerative diseases.

A study of children in Finland showed the world's highest rate of pasteurised dairy product consumption and the world's highest rate of insulin-dependent diabetes. Cow's milk provides the trigger for the onset of insulin dependent diabetes in genetically susceptible infants. Keeping babies off dairy products for their first six months halves the risk of diabetes in susceptible infants. The trigger factor, a milk protein called bovine serum albumin (BSA), can also pass from the mother's diet into her breast milk. If mothers avoid eating beef and drinking cow's milk, this may eliminate the risk of insulin dependent diabetes.¹³⁷

Too early an exposure to cow's milk, say before the age of two, can trigger protein digestive problems, type 1 diabetes, allergies and immune problems for the rest of the child's life.¹³⁷

Nearly all cows today are fed or injected with synthetic hormones, drugs and antibiotics to increase their milk production and keep diseases at bay. The food that cows eat also contains high levels of pesticides and herbicides, especially if they are lot-fed rather than free ranging. Any lactating mammal excretes toxins through her milk. This applies to both cows and humans. Women who consume conventional beef or dairy products have higher levels of toxins in their milk.

Cow's milk has four times the protein and half the carbohydrate content of human milk. Human milk has the lowest protein content (0.9%) of all mammals. However, cow's milk is deficient in essential fatty acids, with only one-tenth the level of human milk (and almost no linoleic acid). Cow's milk contains nearly four times as much calcium as human milk - about 118 mg per 100 grams, compared to 33 mg in human milk. But cow's milk also contains five times the level of phosphorus at 97 mg per 100 grams, compared to 18 mg in human milk. Excessive phosphorus blocks the assimilation of calcium in your digestive tract.

Cow's milk is not suitable for human infants. A human baby requires nutrients for advanced neurological development and delicate neuromuscular control. By contrast, a calf needs food for massive skeletal growth and huge muscle groups. Think of the difference between the demands made on a human hand compared to a cow's hoof. Human infants specifically need mother's milk for their brains, spinal cord and nerves. Many studies have shown that children fed on their mother's milk are more intelligent than those fed on any formula milk.

Contrary to what most advertising tells us, *pasteurised milk is not a good source of calcium*. Pasteurisation destroys the digestive enzymes in the milk, and alters it in other ways (see below). It reduces the availability of the milk's mineral components, making the calcium difficult to absorb (see page 239). North American women consume great quantities of pasteurised milk products, yet suffer the world's highest incidence of osteoporosis.

A 2014 study showed an increased incidence of hip fractures and risk of death among those who drank the most milk.⁴⁰⁷ By contrast, our Paleolithic ancestors drank no milk after weaning. Their skeletal remains show superb bone structure, flawless teeth, and reflect great strength and muscularity.

You can get calcium from more wholesome foods than pasteurised milk. Compare the 118 mg calcium per 100 grams in cow's milk with 100 grams of the following foods: broccoli (130 mg), almonds (254 mg), kale (187 mg), sardines (400 mg), sesame seeds (1,160 mg) and kelp (1,093 mg). Bone broth is an important source of calcium. To absorb calcium you need sufficient vitamin D in your body – which most people lack.

Pasteurisation. Calves fed on pasteurised milk from their own mother-cow usually die within six weeks, so it stands to reason that pasteurised cow's milk is not a wholesome, life-sustaining food for calves, much less for humans.

Pasteurisation involves heating milk to 63 degrees centigrade for 30 minutes, and then rapidly cooling it, in order to kill the bacteria in it. A

fast method is sometimes used, where milk is heated to 72 degrees centigrade for 17 seconds before cooling.

Raw human milk contains the enzymes lipase (essential for the digestion of milk fats) and phosphatase (essential for the digestion of the calcium in milk). Cow's milk contains only the phosphatase. Pasteurisation destroys these enzymes, and alters its proteins. One method of testing to see if milk has been fully pasteurised is to check that all phosphatase has been destroyed! Nobody can properly digest pasteurised milk. Human infants have trouble with it, as evidenced by colic, rashes, respiratory problems, gas and other common ailments of bottle-fed babies.

Pasteurisation kills some, but not all the bacteria in milk. Without pasteurisation, large scale producers would have to observe scrupulous cleanliness and hygiene for both the herd and the milk handling. They would have to test their milk continually for the presence of bacteria from sick cows or unsanitary dairy conditions. The dairy industries have lobbied so effectively for pasteurisation that in most Western countries, it is illegal to sell raw (unpasteurised) milk.

There is widespread bacterial contamination in many, if not most feedlot dairies, that supply most of the factory milk to supermarkets. Salmonella, E. coli, staphylococcal and brucellosis are common. In the United States, bovine leukaemia virus is found in more than 60% of dairy cows, or 80% of the herds there. When the milk is pooled, 90 – 95% of the milk is contaminated with this virus, which is destroyed in pasteurisation.

Pasteurisation makes the milk from sick or infected cows relatively harmless by killing most of the dangerous germs and viruses in their milk.

Raw milk from healthy pasture-fed cows is unlikely to be a source of harmful bacteria – on the contrary, it will protect you from such bacteria.¹²⁵

It is also more profitable to pasteurise milk because it extends its shelf life.

Dr Francis M. Pottenger conducted a rigorous study⁸⁷ between 1932 and 1942, comparing pasteurised and raw milk diets fed to 900 cats. One

group received raw whole milk, and the other pasteurised milk from the same source. Cooked food diets were also introduced, with an outcome similar to that of pasteurised milk.

The raw milk group thrived, remaining healthy, active and alert. Their kittens were as healthy as their parents were. This group was able to thrive and breed indefinitely.

The pasteurised milk group showed signs of chronic degenerative ailments normally associated with humans, such as heart disease, kidney failure, thyroid dysfunction, respiratory ailments, loss of teeth, brittle bones and liver inflammation. They were also listless and confused. The first kittens of the pasteurised milk group were all born with poor teeth and small, weak bones. This indicated a calcium deficiency from a lack of calcium absorption from pasteurised milk. By the time it got to the third generation in the pasteurised group, many of the kittens were stillborn. Those born alive were all sterile and unable to reproduce. The experiment was forced to stop at that point.

Up to three generations of North Americans and Europeans have now fed on pasteurised milk. Exactly the same degenerative diseases, infertility problems and calcium deficiency as in the first and second generations of those kittens are occurring today.

A study in Norway showed people drinking 2 or more glasses of pasteurised milk per day had 3.5 times the incidence of cancer in their lymphatic organs.¹⁷

Homogenisation. If you lived in the 1970's or earlier, you may remember drinking bottles of milk with cream on the top. Homogenisation is the fragmentation and pulverisation of the fat molecules in milk, to stop them separating and rising to the top as cream. Unfortunately, homogenisation causes these tiny fragments of milk fat to pass through the small intestine and into your blood, increasing blood triglycerides.

Low-fat Milk. Stay away from low-fat, skim, high calcium and other de-natured dairy products. If you remove the fat from the milk, you remove the very thing that assists your digestive system to absorb many of the

nutrients in the milk. Fat-soluble vitamins, minerals and enzymes all work in synergy with each other. If you consume low-fat dairy products, the calcium from them may go primarily into your soft tissues, rather than building up your bones, where it causes degenerative diseases such as heart and artery disease,²³⁵ Alzheimer's and arthritis. Low-fat dairy products also make you unnecessarily hungry as your digestive system seeks the missing fat.

Acceptable dairy products. Living in a city in the Western world, it is difficult to get raw milk, unless you personally know a farmer with some cows. Often raw milk is sold as pets' milk or bath milk. In many cities it is possible to buy a share in a cow, to get legal access to your own raw milk.

Fermentation of milk (even pasteurised milk) into kefir, cheeses or sour yogurt makes them more digestible (page 131) and breaks down the galactose. It should taste quite sour – sweet or neutral tasting supermarket yogurts, including those with added fruit, are unacceptable. In a good yogurt, the lactose and galactose has been pre-digested by lacto-bacteria.

In kefir at least 30 bacteria and yeasts break down the lactose and proteins in the milk, turning it into an easily digestible and highly nutritious drink. Kefir is one of the secrets of health and long life, and is discussed on page 338.

Fresh butter or Ghee made from the milk of grass-eating (as opposed to feedlot) animals is an excellent food, rich in vitamins A, D, E and K, and the cofactors necessary for their digestion. These nutrients are necessary for your digestive system to absorb the minerals in your food, and they are crucial for good sexual function.⁸⁴ Use it - garlic, mushrooms and asparagus lightly sautéed in butter are a delicious treat!

FRIED FOODS (polyunsaturated oils)

Try to eliminate foods fried in polyunsaturated vegetable oils – they are one of the main culprits when it comes to disease and ageing. The worst offender is probably fast food take away outlets. A bag of crispy salted fries or chips breaks virtually every rule of healthy eating. It is a dead food, laced with refined salt and deep-fried in poisonous oil. It will spike

your blood glucose, add to your toxic load, promote inflammation, damage your cell membranes, and increase your rate of ageing. Eating foods cooked in polyunsaturated oils (that are often re-used and rancid) is just a habit, and once it is broken your leaner, cleaner body will thank you many times over.

In contrast, foods fried in saturated fats like coconut oil, ghee, lard and tallow are healthy (page 81).

FRUIT JUICES

Juices you prepare yourself from ripe, organic produce using a low-speed juicer are a concentrated source of living micronutrients.

The problem with fruit juices and a few of the vegetable juices such as carrot is that they are so concentrated and sweet that you should limit them to one 100 ml glass per day. They are so high in sugar (fructose) that a glass of orange juice may contain 150 – 170 calories - more than a can of Coca Cola or other sugared soft drink. One glass per day, without any adjustment to your diet or exercise levels, will result in your putting on 7 kg over a year. *If you drink a glass of juice every time you are thirsty, you will create a severe sugar, blood glucose, and weight problem.* A better way to drink juices is to dilute them with three, four or more parts of water.

Supermarket juices usually have both preservatives and sugars added, and can be months old. They are often made from re-constituted concentrates. The worst of them use high fructose corn syrup with small quantities of real juice added. These sweet, long-life bottled juices are a blood glucose spiking, dead food.

Grapefruit juice should be avoided by people taking medicinal drugs, because it interferes with the way some people absorb and metabolise them.

Many people are allergic to oranges. Orange juice in particular is high in potassium. Oranges and tomatoes may worsen arthritis or rheumatism.

Take it easy with these juices until you are aware of their effects on your body.

GRAINS / SEEDS / CEREALS

Grains were not part of the diet of our Palaeolithic ancestors and humans have not evolved to digest them (page 28). They contain protective plant toxins in addition to their complex carbohydrates, proteins, oils, vitamins, minerals and fibre.

Grains include amaranth, barley, buckwheat, bulghur, chia, corn/maize, millet, oats, quinoa, rice, rye, sorghum and wheat.

Grains contain varying levels of gluten with wheat being the worst offender. Rye, barley, oats and the relatives of wheat such as spelt, durum, einkorn, emmer, farro, triticale and kamut all contain gluten. Processing the grains makes no difference – bulghur, couscous, semolina and udon are still grains.

Gluten-free grains include amaranth, buckwheat, corn, flax, millet, quinoa, rice, sorghum and teff.

Wheat germ agglutinin (WGA) is a lectin that causes leaky gut, inflammation, shrinks the thymus gland and other organs, and promotes obesity.^{296,297,298,299,300,301} Other grains and legumes also contain lectins. WGA binds to proteins, and causes an immune response to those proteins (food allergies). It also denudes the small intestine of mucus. WGA is destroyed by boiling, but not by dry heat. Wheat causes vitamin D deficiency and interferes with many of this essential vitamin's roles, making it hard to connect the dots between wheat and many other ailments. Wheat even lowers your intelligence.³⁴⁸

Grains are addictive. They contain opioids that stimulate the same pleasure receptors as morphine and heroin.²⁹³ They are associated with schizophrenia,²⁹⁵ cancer and many other ailments.²⁹⁴

All grains are inedible in their hard, dry state. The best way to prepare all grains and seeds to eat is to soak them for at least six hours, but preferably longer so that they start to sprout. This deactivates the

enzyme inhibitors, softens their fibres, and makes their nutrients more digestible. If you eat them when they are starting to sprout you get higher levels of nutrients, and they are more easily digestible. See page 129 on how to sprout.

A second, but less nutritious way to eat grains is to toast them until golden brown. This process is called dextrinisation, and it converts much of the (hard to digest) starch into (easily digested) simple sugars. Some of the nutrients will be lost in the cooking. Cooking time varies depending on the type of grain and how old it is. Fresh grains cook noticeably more quickly than grains that have been in storage for a while.

Most flour is made by stripping away the husks of grains, removing their kernel, and finely milling or polishing the remains at high speed. The fine starchy flour produced is one of the pillars of the modern Western diet, used to make bread, cakes, pasta and biscuits. Refined grains contain no nutrition, upset your blood glucose and insulin levels, and lay the foundations for metabolic syndrome / diabetes, obesity, heart disease, yeast infection and many degenerative diseases.

Yeast and mould infection of all grains and legumes is a widespread problem. It is important that grains are fresh – in particular, that they have not been stored for long periods in conditions that are slightly damp, otherwise aflatoxin moulds, a potent carcinogen, can occur.

Whole grains are best stored in airtight containers in the refrigerator. They contain polyunsaturated oils that can spoil quickly, especially in heat and light.

NIGHTSHADES

Solanums or nightshades are the family of vegetables that include tomatoes, potatoes, peppers, tobacco and eggplants.

A few people have eliminated nightshades from their diet and improved their health, particularly those suffering from some of the calcification problems described below.

The distinguishing feature of all nightshades is their high alkaloid content; they are also a source of lectins. Notorious alkaloids include caffeine, nicotine, morphine and cocaine. There is evidence that the alkaloids in nightshade vegetables may have adverse effects on a few people. The traditional Chinese diet does not include nightshades, with the sole exception of eggplant. Taoists discourage eating all nightshades, including eggplant.

You may wish to make an exception with tomatoes and potatoes. Tomatoes are rich in lycopene, a powerful antioxidant that protects you from a variety of cancers. Your digestive system cannot easily extract it unless the tomato is cooked with oil. We can thank the Italians who developed Marinara sauce centuries ago, for the delicious combination of tomato, olive oil, garlic, basil, sage and thyme!

Boiled, baked and roasted potatoes (not browned) are a good food if served with plenty of (saturated) fats. Boiled or baked potato with cream or butter has a lower GI and is a nourishing food.

I eat potatoes most days. For me they are a nourishing food, and are one of the main sources of my (limited) carbohydrate intake. Cooked potato that has been cooled is a good source of resistant starch, and this is another reason I value them.

Nightshades such as tomato and potato are ubiquitous in the Western diet, particularly in fast food in the form of potato crisps / fries and tomato sauce / ketchup. Potatoes and tomatoes are fast growing, relatively cheap, easy to transport and store.

For a few people, nightshades may be responsible for the calcification of soft body tissues. They remove calcium from your teeth and bones, then deposit it in tissues and joints. The result is arthritis, arteriosclerosis, cerebral sclerosis, gout, kidney stones, migraine, osteoporosis, lupus and hypertension. Some sufferers have reported recovery from these ailments when they eliminated nightshades from their diets. For the cure to be effective, it is important to remove every trace of nightshade alkaloids from your system over a period of six months. Also avoid nightshades hidden in processed foods and condiments such as potato

flour, tomato sauce / ketchup, paprika, cayenne, Tabasco, and so on. Tobacco is a nightshade, so do not smoke either.

If you buy fries or chips outside your home, they have probably been cooked in trans or hydrogenated oils (page 94). Worse, these oils are likely to have been overheated and repeatedly used over long periods. A cup of hot chips or a packet of crunchy potato fries adds to your risk of cardiovascular disease, cancer, and a wide range of other degenerative diseases.

Green potatoes or potatoes that have been bruised contain glycoalkaloids, a poison similar in strength to strychnine⁸³. At around 0.5 grams per kilo, eating several kilos of green potatoes could kill you. Green potatoes are particularly dangerous to the foetus in the early days of pregnancy.

Sweet potatoes are from a different vegetable family and are a great source of nutrition.

REFINED SALT (but not natural sea salt)

The white free-flowing table salt that you buy in supermarkets bears no resemblance to natural sea salt, or the mineral salts that naturally occur in salt pans or in the soil.

Refined table salt is manufactured in the same process as industrial sodium chloride. The original sea salt is treated with lime or caustic soda to remove the magnesium, which fetches a higher price when sold for industrial use. Most of the other valuable elements in the sea salt are also lost or extracted. The manufacturers then add an anti-caking agent such as aluminium silicate or sodium prussiate, bleaches and even white sugar.

Refined table salt is so foreign to the human body that when it is eventually absorbed it causes oedema (water retention) and other degenerative diseases. Your blood pressure will rise, your hands and legs may swell, and a heavy load is placed on your kidneys.

Most people on a Standard American Diet (SAD) have a craving for salt. Their bodies are actually crying out for the other minerals in sea salt, and eating salty processed foods or otherwise consuming refined salt makes little difference to their hunger. Processed foods contain excessive quantities of refined salt, especially pretzels, chips and salted nuts.

Unrefined sea salt, mineral salt, Himalayan salt, and the natural salts found in salt pans are completely different to refined salt. Five per cent of the weight of unrefined sea salt is a treasure trove of around 100 elements and over 80 additional compounds. The primary mineral in unrefined sea salt is magnesium. The addition of sufficient magnesium to your diet can transform your health, more so if provided with an array of other essential minerals.¹³¹

Natural sea salt varies in colour from off-white to grey-green to brown, is hygroscopic (attracts water) and feels slightly damp or sticky between the fingers. One of the best is Celtic salt, widely available in delicatessens and health food shops.

If you eat a quarter teaspoon (1.5 grams) of unrefined sea salt per day, you will get 75 milligrams of essential minerals (in addition to sodium chloride) in this natural bio-available form. This is better than any manufactured multi-mineral tablet, because it includes not only all the major minerals, but also traces of virtually every other micronutrient mineral known (see page 116).

A low salt diet is a mistake.⁸⁶ Dr Michael Alderman, head of epidemiology at the Albert Einstein School of Medicine in New York and president of the American Society of Hypertension, has shown that people on low salt diets are less healthy. He suggests that the obsession with low salt diets today is misdirected, and has come about because people are eating refined salt rather than natural sea salt. Use as much unrefined sea salt in your diet as feels right. If you live in a hot environment, exercise heavily or drink a lot of water, you may need to add salt to your food to replace that lost in your sweat and urine.

The average salt consumption around the world ranges from 1 to 5 grams in traditional cultures, and is about nine grams (1.6 teaspoons) per day for

those on a standard American diet.⁸³ However, in traditional cultures the natural salt content of their (organic) food brings their salt consumption up to about 1.6 teaspoons.

Most people tend to gravitate towards this level of 1.6 teaspoons of unrefined salt per day. If they have less salt, their food feels bland and needs salt added. Conversely, too much salt tastes unpleasant. It is the use of refined salt that causes overconsumption and confusion about health issues.

Either excessive or insufficient salt can cause headaches or migraines. Muscle cramps at night, asthma, or feeling faint or dizzy may be indicators of a salt and water shortage in your body.

Salt is a natural antihistamine, and people with allergies can try increasing their unrefined sea salt intake.

RICE (brown)

Rice is probably the least toxic grain. However, it is still a grain and needs a lot of digestive power. Western people in particular should not eat rice at every meal. Use rice occasionally, and only eat small quantities.

Taoists recognised that rice is not a long life food. Use it as an occasional food, or more often only if you can get it fresh straight from the rice paddy.

Rice is gluten-free, meaning that many people who cannot tolerate wheat can eat rice.

Avoid brown rice unless you can get it absolutely fresh-off-the-paddy. Brown rice contains vitamins B and E, iron and some protein. If it is fresh it is more nutritious than white rice, but unfortunately, it contains oils that quickly go rancid. Unless you can buy brown rice that was chilled within a couple of hours of threshing, it is likely to be rancid.

White rice on the other hand, has had the oils and most of the other nutrition removed. White rice is stable and if stored correctly will last for many years.

Rice is the only major crop that is grown under flooded soil. The flooding causes the rice plant to take up inorganic arsenic, normally locked up in soil minerals. Brown rice contains about ten times more inorganic arsenic than other food staples. White rice has about half as much arsenic as brown rice. Dry white rice typically has 0.1 to 0.4 mg arsenic/kg, but sometimes considerably more.^{409,410}

Chronic exposure to arsenic can lead to a wide range of health problems, including cancers (particularly lung and bladder), developmental problems and damage to the nervous system, heart disease and diabetes. The risk is higher in children and infants.⁴¹¹

SUPERMARKET DRINKS

Soft drinks (colas, soda) are poison. If you want health and a long life, avoid cans or bottles of colas, sweet-tasting carbonated drinks, sports drinks, diet drinks and other high flavour liquids that represent the worst of dead, chemical, manufactured, packaged trash. They are high in flavour, blasting your sense of taste with sweetness and synthetic fruits. They are addictive – do you know anyone who has drunk several cans a day for a year, and then found them easy to give up? They are made to be drunk icy cold – completely the wrong temperature. They are full of sugar²⁴⁵ (a can of Coca-Cola contains seven to ten teaspoons of sugar), phosphoric acid, bromides, carbonic acid, caffeine and a host of other nasty chemicals, the precise formula which is held secret.

One can of soft drink per day will cause you to put on seven kilograms over a year. You would be hard pressed to cut out the 150 calories in a single can from the rest of your diet, or to do the extra exercise to burn it away. The average North American drinks just under two cans per day! No wonder obesity is such a problem. No wonder diabetes, insulin resistance and heart disease are so prevalent.

The main type of sugar used in soft drinks is fructose. It is toxic in the quantities used, even in a single can. See page 64.

Research shows that sugar-sweetened drinks are associated with faster ageing and shortened telomeres.⁴⁰³

Teen males in North America drink an average of over three cans of soft drink per day, with 10% of them drinking more than seven cans per day.⁷¹ This consumption directly causes childhood obesity and teenage type 2 diabetes. These children also face a higher risk later in their lives of degenerative diseases such as osteoporosis, heart disease, strokes, asthma and cancer. The advertisements show healthy young bodies wolfing down soft drinks in the midst of sport and fun, but the truth is that young people are for the first time suffering obesity and the onset of degenerative diseases previously only seen in adults.

Sugar-free drinks are even more dangerous. As explained on page 144, they make you feel inappropriately hungry, among their other damaging effects. Sweeteners such as saccharin, aspartame, sucralose and acesulfame-K are toxic chemicals, not foods. Why risk taking them over an extended period (your life)?

Why not start re-habituating your taste buds to water?

SOY PRODUCTS

Soybeans are a cheap, versatile and widely-used food, high in protein (particularly the amino acids glycine and arginine) and containing Omega-6s and small quantities of Omega-3s. Please avoid all soy products except small quantities of those made from fermented beans.

Most soybeans are processed into a white flour called soy protein isolate. After removing the fibre with an alkaline solution, the beans are acid-washed in aluminium tanks. The beans are treated with other chemicals, including nitrates. Animals fed on soy protein isolate develop cancers and produce sick offspring. Nevertheless, it is added to nearly two thirds of all processed foods for human consumption, and is the base for most animal stock feeds.

Soymilk, tofu and many other products are made from soy protein isolate. Tofu is a bland, smooth, soft white food.

In Indonesia, cooked soybeans are fermented and pressed into cakes called tempeh. This traditional food is covered in a white fungus, however the tempeh I have seen in shops is never made the proper traditional way.

Soy products contain enzyme inhibitors such as phytic acids⁸⁴ that lead to mineral deficiencies. Soy products contain lectins, discussed below. Virtually all commercial soymilks contain sugars and other additives. Soybeans contain a high level of goitrogens (page 311).

Soy products are difficult to digest. The worst offenders are soy flour, soy grits and texturised vegetable protein (TVP), followed by soymilk and tofu. They cause flatulence and a range of digestive problems.

The most digestible soy products are those that have been fermented – traditional Indonesian tempeh, miso, tamari and soy sauce. Fermented soy products contain antioxidants produced by the yeasts and lactic acid bacteria.

Soybeans contain oestrogenic compounds (phytoestrogens) that lead to hormonal upsets and promote breast cancer in older women.

Phytoestrogens are especially harmful for young boys (babies and toddlers). The higher levels in white soy products (soymilk and tofu) interfere with their sexual development. Boys fed soy products suffer immature genitalia and the development of breasts. Girls can develop pubic and underarm hair and the onset of menses before the age of ten.

Soy products interfere with the absorption of zinc. If you are drinking soymilk, or eating tofu or other soy products every day, you may be zinc-deficient, particularly if you are a vegetarian.

Soy products are high in aluminium. The soy plant has a particular affinity for aluminium, absorbs it from the soil, and concentrates it in the beans. Soy protein isolate is made in aluminium tanks. Soymilk has around 100 times the aluminium content of cow's milk.

Many people are allergic to soy products – particularly those that are unfermented, such as tofu and soymilk. This is another reason to avoid

them. The Japanese, who have traditionally eaten tofu for centuries, only eat small quantities combined with fish broth.

Soybeans and particularly soy oil contain phytic acids called lectins (as phytohemagglutinin) which cause blood thickening, atherosclerosis, immune and hormonal problems. Unprocessed soy products such as soymilk and tofu also contain lectins. Fermented soy products such as miso, tempeh, tamari and soy sauce contain negligible lectins.

Avoid soy oil. It is extracted using heat, solvents, bleaches and other chemical processes that damage the oil's structure.

Soybeans have been genetically engineered (GM) to make them resistant to herbicides. This enables the use of high levels of herbicides, so GM soybeans usually contain herbicide residue. Soy protein isolate is a high-protein soy flour made with GM soybeans. It is used in many processed foods, non-dairy desserts and soymilks.

SUGAR

Please try to eliminate all sugars from your diet, including foods sweetened or cooked with sugar. This single action can make a dramatic difference to your health and ageing. Sugar causes havoc with your hormones, feeds disease-causing fungi and bacteria in your blood and gut, decreases the oxygen in your blood, and causes many diseases including cancer, heart disease and diabetes. Initially you may have cravings for sugar and miss the sweet taste of a modern convenience diet, but as your body heals and gets into balance, you will flourish. Sugar is discussed on page 64.

WATER

DEHYDRATION

It sounds incredible, but many people are dehydrated, and they do not even know it. Humans are water-based animals that need constant and sufficient water. Our bodies are 75% water by weight. Brain tissue is 80% water. You need an ongoing supply of water to flush away wastes, for your digestive system to work, to prevent your body salts from getting too concentrated and to maintain your blood volume. Water is vital for the functioning of your electrical, energy, digestive and immune systems. It is essential for the storage of energy, the functioning of all organs, muscles, bones, nerves, and the transport of substances throughout the body and across cell membranes. You need a regular supply of water for a well-hydrated and healthy-looking skin.

When you are dehydrated, your body activates its water rationing system. The top priority is to ensure that your brain gets sufficient water, by drawing water away from other parts of your body. The level of histamine in your body will go up, first making you feel tired, disoriented and grumpy. You will find it hard to concentrate. If dehydration continues, you may become constipated. Your digestive system needs sufficient water. Stomach pains, constipation and other digestive problems are sometimes a sign of dehydration. Chronic or recurring pains that are not easily explained by injury or infection should first be considered as an indicator of dehydration before you investigate other avenues. Various pains around the back, neck, joints, abdomen, arthritis-like pains, and a variety of other ailments sometimes clear up when you start regularly drinking sufficient good quality water.

If you are feeling inappropriately hungry, first try drinking some water. Often the hunger will disappear. We regularly do not recognise that we are thirsty, and our habitual and inappropriate response is to eat food. It is better to drink water at least half an hour before eating, and if still hungry, then to eat.

The commercial interest in selling you [soft drinks](#) (cola), pasteurised milk (especially flavoured milk), [fruit juices](#), manufactured beverages and especially alcohol make it difficult to have the discipline to drink water. Our children are programmed to drink milk and supermarket fruit juices – not water. Television and fast food promote soft drinks and juices, never water. A cultivated preference for the taste of these drinks automatically reduces the urge to drink water.

Your sense of thirst is often a poor guide to whether you are actually thirsty, and it gets worse as you age. Part of the ageing process is the drying of our cells – the ratio of the water content between the inside and the outside of the cell membrane decreases over the years. If you can maintain this internal water content, you will age less quickly. Remember, when you feel thirsty, your fluid levels are already too low. Many old people do not realise that they are severely dehydrated. Numerous studies of nursing homes have shown that most inmates are in a constant state of dehydration, and one of the most effective means of improving their health and vitality is to ensure they drink sufficient water.

How much water? Check the colour of your urine. Light yellow or straw-coloured urine is normal. Darker yellow, orange or even brown urine is a sign of dehydration. If your urine has no colour and is virtually like water, then you are probably drinking too much water.

You may be surprised to find how little water you drink. I challenge you to fill a litre (quart) bottle with water and note how long it takes you to drink it. You need a bottle that size every day, including winter. In summer, with heavy exercise or with heavy sweating, you can at least double it. When you are giving your body a real workout, you can lose well over a litre of water an hour, through sweat and the moisture in your out-breath.

I suggest that you drink a 200-250 ml glass of warm water on rising each morning, and wait half an hour before having breakfast. Drink a glass of water 30 minutes before other meals, or between meals.

A sick person should usually drink more water. Sometimes there will be a remarkably quick recovery from an illness – within minutes or hours. The damage caused by dehydration over months or years will usually take a longer period to cure because full re-hydration of the body at the cellular level is a slow process.

Fruit and vegetables are 90% water. This water is easily accessible, and rich in micronutrients. A kilogram of fresh produce, such as four pieces of fruit or four serves of vegetables, provides 900 ml of water. Fruit and vegetables count toward your daily intake of water.

Drink juices slowly. It is best to sip juice, tea and other non-water drinks in small quantities, and take time to mix them with your saliva. This way, your body is more easily able to absorb what you drink.

Warnings - many people drink too much water, a particularly bad practice with soft or mineral-deficient water (such as reverse osmosis or distilled water). It puts a strain on your kidneys and may leach valuable minerals from your body. If your urine has no colour and looks almost like water, you are probably drinking too much.

Before increasing your water intake, it is important to ensure that your kidneys can process it. As you drink more water, your urine output should match it, rather than retaining water in your body, as indicated by increased weight or swelling in the legs or ankles. This is especially important if you are ill, when you should consult your doctor.

WARM WATER

The first thing I do when I get up in the morning is drink a glass of warm water. I heat the water to body temperature or a little warmer, but not so hot that it is uncomfortable to hold in my mouth. I always try to drink warm rather than cold water.

I learned about this long-life technique at a Taoist health centre in Thailand. We were encouraged to drink several glasses of water during the day – always warm. It is a simple detox technique. Warm water is a

better solvent (after all, you wash the dishes in warm water), and it is closer to the temperature in your body where digestion and all other processes take place.

When I first started drinking warm water, it felt a bit weird, as we are programmed to drink iced water. It can be difficult to get a glass of warm water in a bar or restaurant. However, after only one day my whole body started to feel warmer, clean and vital. It is clearly an effective way to remove toxins. My urine went a darker colour and my sweat and eliminations took on an unpleasant smell, though this did not last for more than a couple of weeks.

It is an Ayurvedic tradition to sip hot water. It will satisfy false hunger, shift and excrete partially digested food, and help detoxify – especially fat-soluble toxins. If you are hungry, it helps you prepare for good digestion.

After you adapt to drinking warm water, you will never want to return to drinking iced water. Your improved feeling of wellbeing is too obvious.

WATER POLLUTION

The quality of tap water varies widely, depending on your location. Nearly all public water supplies are chlorinated, and many other chemicals such as fluorides and alum may be added. Pollution also occurs from copper pipes and old plumbing. A myriad of agricultural and industrial pollutants contaminates the water sources of virtually every city in the world. Chemical contamination of public water includes solvents, benzene (gasoline), prescription and non-prescription drugs, pesticides, agricultural fertilisers, steroids, detergents, disinfectants, fire retardants, antibiotics, reproductive hormones, plasticisers and fragrances. Most of these chemicals are present in only trace amounts, but their effects over long periods and in combination with each other are unknown.

In poorer countries, water pollution is also biological, with high levels of bacteria, sewage and other contaminants. Passing the water through a filter or boiling it usually makes it acceptable for drinking. Unfortunately, agricultural pollutants, particularly pesticides, are a rapidly increasing problem in the third world.

Most water authorities assume (or hope) that the catchment areas and aquifers from which their water is sourced are isolated and pollution free. Typically, they test for only a dozen or two chemicals out of at least a thousand that may be in the water supply.¹¹ They are reluctant to provide contaminant information because if minute traces of poisonous chemicals are widely dispersed in all the major sources of water, there are no economic or easy alternatives. It would be prohibitively expensive to filter all the water for a city to a level where it would remove trace chemicals. Separating drinking, cooking and bathing water from water used for other household and garden use would require a complete new water distribution system, and would still require high quality filtering of large quantities of water. Nearly every city in the world is facing this problem, and it can only get worse.

A large part of your exposure to water pollution is through your **skin and lungs**. A bath or shower exposes your skin to many litres of water, and the heat opens your pores and evaporates any volatile chemicals in the water into the air and steam. There is little research in this area, but it is possible that you could take up more water pollution through bathing than through drinking and eating.

Filters are available to connect to your shower or bath, as well as your kitchen sink. Bathing filters usually have an active carbon cartridge, which removes the solid matter and the chlorine. Trace pollutants and many solvents remain, but these are the most practical filters for the job, performing at the high flow rate required for a shower. Eventually, water filters at the point of use will be standard in advanced societies.

Chlorine is added to municipal water to kill bacteria. It creates a dilute solution of hypochlorous acid, which is harmful because it combines with any hydrocarbons in the water to form carcinogenic chlorinated hydrocarbons. You can remove most of the chlorine from tap water by

leaving it standing in an open bowl for a few hours. However, you can get a big dose of chlorine from taking a bath or shower in chlorinated water, or swimming in a chlorinated swimming pool.

Fluorine is another chemical added to water supplies in America, Australia and several other countries, in the mistaken belief that it reduces tooth cavities^{84A}. If you are concerned about tooth decay, suggestions in *Grow Youthful* such as sodium bicarbonate, low sugar diet and cleaning your teeth with the Charles C. Bass method (page 295) will make cavities a thing of the past. It is extraordinary that fluoride is still added to public water supplies when the damage to the community's health is so serious. Hundreds of research studies^{248,249} show that in low concentrations and over long periods, fluorides cause immune problems including cancer, hormonal upsets, increased uptake of aluminium and lead, and brittle bones leading to a high level of hip fractures.⁴⁶ Fluorides are the primary cause of fibromyalgia.

Most countries have banned water fluoridation, or now admit that adding fluorides to water was a mistake and no longer add them. They include Austria, Belgium, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Israel, Japan, Luxemburg, Netherlands, Northern Ireland, Norway, Scotland, Sweden and Switzerland. America, New Zealand and Australia have not woken up to the dangers.

Fluorides are difficult to remove from water, and need a specialised filter to do this. Most people living in areas where fluorides are added to municipal tap water suffer some level of accumulation in the body. To remove fluorides from your body:

- [Iodine](#) (page 310) is severely lacking in most diets. It is an antagonist to bromine, chlorine and fluorine. Supplementation with iodine has been clinically demonstrated to remove sodium fluoride from the body. Seaweed (kelp) and *Lugol's Solution* are recommended iodine sources.
- [Magnesium](#) is an essential mineral that many are lacking. Besides being so important in the metabolism and synthesis of nutrients within

your cells, it also protects against the absorption of fluorides into your cells.

- [Boron](#) is effective for fluoride detoxification. Yes, this is the borax you can find in most supermarkets laundry aisle. It needs to be taken with pure water in small quantities.
- [Tamarind](#) is used medicinally in Ayurvedic medicine. Teas and strong tinctures made from the seeds, pulp, bark, and leaves of the tree have been shown to remove fluorides.

Copper. There is a debate in the scientific community as to whether we need more or less copper.

A blood serum or hair test will confirm that an excess of inorganic copper is apparently a problem for many people today, with most of this excess coming from the copper pipes and taps used in household plumbing.³⁶

Copper is an antagonist to zinc,³⁵⁷ iron³⁵⁶ and manganese, so high copper levels inhibit your uptake of these minerals, particularly zinc. Excess copper is associated with schizophrenia, cardiovascular disease and arthritis.

If you have a copper overload, the key is to take high dose zinc supplementation. Molybdenum, manganese, sulphur, and calcium adequacy are also important in reducing excessive copper stores.

However, copper is essential in small quantities, and it is possible that many people are actually deficient rather than suffering an overload. Elevated blood copper is probably a symptom of inflammation, rather than its cause, so high levels of copper in the blood or hair may be misleading.

Copper deficiency is a risk factor for heart and arterial disease, atherosclerosis, hypothyroidism and anaemia.^{352,353,354,355,356,357} It is a cause of grey hair.³⁵¹

The best way to get organic copper is from your food. Foods high in copper include liver, oyster, lobster, mushroom, crab, nuts especially

cashews, sunflower seeds, chocolate, baker's yeast, duck, turkey and chicken giblets.

Asbestos. Older water supply lines are sometimes made from asbestos cement piping, which is usually acceptable as a biofilm forms on the interior of the pipe that protects the water from the contaminants. However, pipe breakages are common, and if they are cleaned asbestos contamination can enter the water.

TYPES OF WATER

I was recently in Bali, Indonesia, and after a couple of days had a wonderful feeling of wellbeing, health and energy. I asked many other visitors if they felt the same, and most reported that after a few days in the island paradise they had similar feelings. Several factors could account for this: the warm, calm, moist climate; the produce grown in rich volcanic soil; the food prepared using traditional ingredients and methods; and the calming spiritual energy of the island. Another possibility is the drinking water. The tap water is not safe to drink, and virtually all visitors rely on bottled spring water. This water comes from deep springs high in the volcanic mountains of Bali or East Java. It has high levels of calcium, magnesium, zinc, iron, manganese, copper and other minerals.

Increasing your consumption of good quality water can transform your health, and play a central role in the healing of virtually all degenerative diseases. Good water is rich in alkaline minerals (page 238), is ionised, and an effective antioxidant (page 113).

Clean healthy water is becoming harder to find, and more expensive. The quality of the public water supply varies markedly around the world, between cities, and even within cities. Virtually every water utility adds chlorine to its water, and many in Australia and the USA also add fluorine, alum and other harmful chemicals. Water pollution (page 171) is endemic.

Tap water, spring water, and other unfiltered water usually contain some level of alkaline minerals such as calcium, sodium and potassium. They also have smaller quantities of a wide range of other elements such as magnesium, manganese, copper, zinc, aluminium and iron.

Hard water contains calcium salts, and is normally quite safe to drink. Populations where the water supply is very hard do not seem to show any adverse effects.

Here is a list of different types of drinking water and water filters.

- The best drinking water is glacial melt water, especially from an area with a relatively young geology. Glacial water is rich in a wide variety of minerals. The ice may have been formed hundreds, or even thousands of years ago, prior to the existence of the widespread pollution that we suffer today. As the ice melts, the water can flow under the glacier through the crushed rocks, mud and plants formed under the weight of the ice. Such water is ionised, unpolluted, naturally structured, and rich in a variety of minerals. Sometimes it is so mineral-rich that it is not even clear.

Water directly from melted ice tends to have a beneficial molecular structure, similar to the structure in which water is held inside our cells. Five or six water molecules may be clumped together, rather than 20 to 30 as in tap water. This small molecular structure makes it easy to absorb both through the stomach and into cells. After drinking a glass, it is quickly absorbed and less likely to be unpleasantly sloshing around in the stomach.

Populations all around the world that exist on melted ice water enjoy excellent health and slow rates of ageing. To make water with a similar structure, freeze it and then leave it in the sun to melt. Another source of micro-structured water is the undamaged juice of fruits and vegetables.

- Water from some but not all natural springs is also superb. The best water comes from relatively new geological regions such as volcanic or newly uplifted rock. It flows from deep springs high in pristine mountain areas above habitation and other sources of pollution.

- Reverse osmosis (RO) filtration removes most pollutants, including fluorides, low levels of agricultural (herbicide, fungicide) and industrial chemicals (such as benzene), leaving you with pure water. It also removes all the good minerals in the water. If consumed for a long period it can leach minerals like sodium, potassium, magnesium and calcium from your body. A solution to the problem is to add a few grains of sea salt, colloidal or peat minerals to each ten-litre bottle of water before using it. That way, it is more like the water in nature.
- Steam distilled water is also very pure water. The only remaining pollutants in this water are some of the volatile compounds that evaporate and then re-condense with the steam. It effectively removes the fluorides from the water. Distilled water can leach minerals from your body in the long-term, so it is a good idea to add a few grains of minerals to each ten-litre bottle of water before using it.
- Active carbon filters, made from charcoal, remove the chlorine and nasty tastes from the water. Unfortunately, they do not remove the fluorides and many other toxins. A cheaper way to remove chlorine and some of the other dissolved gases is to leave the water standing in an open bowl or container for a few hours. If you leave it in the sun, it is even better. Some of the better restaurants do this for a cheap source of good-tasting water.
- Activated alumina filters to remove fluorides. Filters with an alum or aluminium salt component can remove the majority but not all of the fluorides in the water.
- Alkaline ionised water. An ioniser takes tap water, filters it and then using electrolysis, splits it into water containing mostly acid minerals and water containing mostly alkaline minerals. The two types of water come out in two separate pipes.

The ioniser removes some but not all of the acid-forming minerals in the alkaline water, depending upon the pH level you select. For example, in highly alkaline water approximately half the fluorides are removed. At a pH of 9.0, which is the maximum alkalinity that you should drink, approximately one third of the fluorides are removed. The same applies to the other acid-forming minerals.

People selling water ionisers say that the alkaline ionised water is rich in bio-available minerals, helps remove toxic acid wastes from your body, and provides a raised level of oxygen in your blood.

I had a water ioniser and drank alkaline water for ten years. The water tasted good, but I honestly cannot attribute any health benefits to the alkaline water over that long period.

However, I am almost certain that the alkaline water damaged my digestive system. In early 2010, I was diagnosed with severe acid reflux, GERD or GORD. Whilst investigating why my stomach was digesting poorly, and my lower oesophageal sphincter (LES) was not closing efficiently, I discovered that both the LES and the pyloric sphincter are pH sensitive. In other words, your stomach's entry and exit valves are confused by ongoing alkalinity. One of the keys for efficient digestion is a strongly acid stomach (page 244). I stopped drinking alkaline water, and started treatment with apple cider vinegar. There was an immediate improvement in my digestion and the reflux quickly and permanently disappeared.

On page 245 I describe how conventional medicine and the drug companies promote alkaline cures to stomach problems. Alkalinity provides temporary relief of symptoms, but is the *opposite* of what is needed for a cure. Research proving this has been conveniently ignored for 40 to 50 years.

- The quality of rainwater varies, depending on your location. The cleanliness of your roof, gutters and water storage tank is also important. If you live near a city or source of air pollution, the rain may be acid and polluted. The first few rain showers of the season should be used to flush out the storage system. Leaves, bird droppings, insects and other biological pollutants can give the water a bacterial or parasitic content, so sometimes it may be necessary to boil it before drinking. Rainwater has almost no minerals. So like RO and distilled water, it needs some minerals added.
- Bottled water that you can buy in a supermarket ranges in quality from superb through to worse than tap water. Spring and mountain stream water can vary considerably in mineral quality and pollution

levels. Most office and supermarket bottled water comes straight from the public water supply, through a carbon filter, and into the bottle. Some bottled waters are also reverse osmosis filtered. Bottled water supplies are not always regulated.

EXERCISE

21ST CENTURY SLOTHS

Up until the start of the 20th century, virtually everyone was physically active. Everyday life contained lots of physical work. Most people lived on the land or did some form of manual work. Farms, factories, gardens and homes depended on physical labour. People did not have cars, labour saving devices and convenience stores. Instead, they walked everywhere - to work, school, shop or socialise. Vegetables were home grown, and all washing and housework was done by hand.

In 1900, more than three quarters of people's daily calorie intake was spent on these daily work and survival activities. Advising a farmer or factory worker to take up a sport or exercise program would have been laughable. In our sedentary lives today, physical labour accounts for less than 1% of food calories expended.

The majority of people living in the Western world do not exercise. This lack of exercise is partly responsible for the epidemic of obesity and degenerative diseases we suffer. Regular exercise throughout your life, particularly in your middle years (40-60), can offset the impact of chronic diseases, maintain physical function and significantly extend your life.¹¹³

We have created a comfortable, physically lazy society where it is possible to exist without doing any effective exercise. We complain when it is awkward to unpack the dishwasher into a cupboard in a poorly designed kitchen. The irony is that getting down on our hands and knees, and stretching to get to the back of a cupboard is a good mixture of weight bearing and stretching exercise. A hundred similar stretches and muscle tensions each day around our house and office would transform our health. Unfortunately, the trend in our workplaces and living areas is toward making our lives physically easier, reducing muscular effort, and minimising the risk of damaging our already weak backs and poor postures.

Watch a healthy toddler playing for a few minutes. In that short time, you will see the little one exercise every major muscle. The young child is constantly moving, bending, twisting, down on the ground, up again, in an endless variety of relaxed and full movements.

By comparison, the average adult mostly sits, stiffly and rigidly, while occasionally moving their hands or their arms in a constrained and repetitious pattern. This is because adults seldom play, but instead spend most waking hours sitting. Driving, commuting, reading, working at a computer, sitting at a desk, preparing a meal, eating the meal, having a drink or a conversation with a friend and watching TV are all examples of the modern, low-exercise way of living.

The human body needs to be used – every day, many times. Body movement is essential. [Long periods of sitting](#) and lack of activity are dangerous. You need some movement every 10, 20 or 30 minutes, rather than sitting for an hour or more. It need not be anything too strenuous where you get your pulse and breathing rates up and work up a sweat. Just get up, walk around, stretch, take some deep breaths. Anything, rather than long periods of sitting.²⁴¹

An hour of tennis or aerobics may suit some people, but for others walking, gardening, active housework, prolonged and varied sex, playful sport and physical work are perfect. If you can fill most days with this type of activity, your health and longevity will greatly benefit.

Muscle mass. After age 40, the average adult loses 100-150 grams of muscle a year and gains three times that much body fat, a condition known as sarcopenia. People who do not exercise lose their muscle bulk, and develop a pudgy, flabby old person look. Insufficient protein or saturated fat in the diet can also lead to muscle loss. These people have a high fat / muscle ratio, slow metabolism, and a distorted sense of hunger, making them want to eat more than they need.

Muscles burn calories even when they are resting. However, fat has a low rate of metabolic activity – it uses almost no energy. So as fat replaces muscle you get into a vicious circle where your metabolic rate falls and

you burn fewer calories. While eating exactly the same amount of food and doing the same amount of exercise, you put on more fat. As your bodyweight shifts from muscle to fat, it becomes harder to lose that weight.

Therefore preserving your muscle bulk is one of the keys to having a slim, vitally healthy, long-lived body. *“....building muscle in the elderly is the key to their rejuvenation.”*¹⁵

Your bathroom scales will not tell you that you are losing muscle and gaining fat. Fat weighs little compared to muscle, so at first you will not gain much weight. For a fifty-year-old person, a four-kilogram weight gain over ten years is a lot worse than it sounds. This person is likely to have lost two kilograms of muscle and gained six kilograms of fat.

As you start to exercise and re-build your muscle mass, you will achieve only a minimal reduction (if any) in your weight, because muscle weighs more than fat. However, your body will be firmer, slimmer and look fantastic. So do not rely on your weight to measure your progress – you will probably be doing better than it indicates.

Even if you do not look fat, you can still have a high fat to muscle ratio. Some thin people – particularly women who have been sporadically dieting - have lost a lot of their muscle. Their high fat to muscle ratio makes it easy to put on weight again, and accelerates their ageing.

A major study¹³⁴ showed that fat located over your belly is particularly dangerous. Excess belly fat (or visceral fat) is strongly associated with heart disease, strokes, diabetes, some cancers and even age-related dementias. Other researchers such as Daniel Eitzman say that visceral fat produces more inflammation than fat found in other parts of the body. Inflammation likely plays a key role in heart disease and a host of other chronic diseases. Eitzman said that measurement of waist circumference or waist-to-hip ratio is important for assessing the risk of inflammation-driven diseases.

When you exercise your muscles their cells are stimulated to grow and divide, so your muscles grow in strength and bulk. If you do not use them, they will literally disappear. Visit a bed-bound patient in any hospital, and

see how their muscles have shortened and atrophied in just a few weeks. Muscle loss from a less dramatic lack of exercise may take years rather than weeks, but is just as damaging.

Exercise has many other benefits apart from building up your muscles, such as detoxification and playing an essential role in your glandular, immune, digestive and other systems. If you are overweight, exercise is an essential part of your return to normality.

Exercise is a great stress reliever. A physical workout is an outlet for the fight or flight response. You probably have few (socially acceptable) opportunities to run or fight immediately you feel stressed, but you can go out for an hour's walk, jog, tennis or dig in the garden. It will relieve your muscles, force you to breathe deeply, and shift the toxins formed from the by-products of stress hormones.

The increased muscle temperature that exercise brings on is an effective tranquiliser. Aerobic exercise alters your brain chemistry, producing noradrenaline and norepinephrine. These hormones, which make you feel more optimistic and that you have a sense of power over your life, are deficient in depressed people. Exercise increases your production of beta-endorphins, which have a calming and uplifting effect on your whole body through their action on your central nervous system. Numerous studies have shown that when depressed people start to exercise, even as little as taking a brisk 30 minute walk three times a week, their depression lifts.

Exercise is necessary for the hormonal mechanism that controls your appetite to work properly. People who do not exercise suffer from distorted appetites, feeling hungrier than their bodies really are. Obesity is a vicious downward spiral, because the fatter they get, the harder it is to exercise, the less effective is the exercise, and the hungrier they feel.

TYPES OF EXERCISE

Walking briskly is a great form of exercise. If you breathe deeply, swing your arms and keep a vigorous pace, you will get a good cardiovascular workout. Gardening or light physical work is also great. Jogging, swimming, cycling and aerobic sports such as tennis, baseball and soccer can give you the same workout in a shorter period, also making you fitter.

Aerobic exercise uses oxygen and moves your muscles. It increases your heart and breathing rates. Walking, running and playing most sports are aerobic exercises.

Aerobic exercise raises your body temperature and stretches or moves your muscles, organs and joints. Aerobic exercise is required for the daily elimination of toxins and wastes. It increases your blood flow, so your heart, lungs and arteries have the effect of a hot high-pressure hose washing out your body. It clears out senescent white blood cells around the body, and breaks down accumulated toxins, especially under your skin and around organs such as the liver and the intestines.

At a cellular level, the effects of aerobic exercise may be even more important. It improves the flow of oxygen, glucose and nutrients into cells through their membranes, and of wastes back out of your cells. Moderate exercise has a fluidising effect on cellular membranes, improving your health and lowering your biological age.⁴⁰⁶

It is important to drink water during and after exercise, to assist your kidneys and liver in removing these toxic wastes. This is why you may feel tired, or dizzy or faint during the first weeks of exercise – from the increased level of toxins in your blood.

Regular aerobic exercise will:

- detoxify your body.
- strengthen your heart and lungs, and maintain the elasticity of your arteries.
- lower both excess blood glucose and excess insulin.

- lower your blood pressure, total cholesterol and triglyceride levels.
- raise your HDL (good) cholesterol.
- help maintain a healthy digestive system and bowel function, particularly by massaging and stretching your internal organs.
- improve your immune system, and protect you from cancer and other degenerative diseases.
- assist with stress and depression. Pleasant and regular exercise is an antidote for depression.

Anaerobic exercise is exercise without oxygen. You can't last long without oxygen, so anaerobic exercises don't last long either. Swimming under water is a good example. Sprinting is another – you run as fast as you can without much breathing for a few seconds, and then when you slow down or stop you breathe deeply to catch up.

When you do intense anaerobic exercise, you typically feel a burning sensation in your muscles. Lactic acid is produced as a by-product of the glycogen used, and causes the burning feeling. Less oxygen than normal reaches the muscle being exercised, and a high level of carbon dioxide accumulates.

Isotonic exercise (also called resistance or strength training) exerts your muscles while they remain stationary. Weight training or pushing one hand against the other are examples of isotonic exercise.

Resistance exercise builds your muscle strength and mass. The benefits of a regular weights or strength program are overwhelming. It will increase the size of your muscles, along with impressive gains in their strength and tone. *It is the most effective way to increase your muscle bulk and reduce your fat to muscle ratio.*

Myths. Do not worry about gaining weight or additional bulk through having more muscle. Weight training is great for women – don't worry about getting excessive muscles or a masculine physique – that only comes with a high protein diet, long periods of daily training, and often,

steroid injections. Another myth is that if you do weights and then stop, your increased muscle will turn to fat. That is rubbish. What is true though, is that people who stop exercising often gain weight.

Resistance exercise has significant anti-ageing effects. You will:

- look good, with a firm, toned body.
- lower your fat to muscle ratio, making it easier to stay slim.
- store less fat-soluble toxins with less fat around your body.
- be less likely to suffer hunger pangs or low energy between meals. Having good muscle bulk will help you avoid blood glucose spikes and the horrible consequences (page 225). It will give you a good reservoir of energy when you do need it.
- strengthen and build your bones. If you stress a bone repeatedly, bending it just slightly, the cells inside the bone sense this movement and go into a growth mode, making the bone both denser and stronger. Compression on a bone, by lifting weights or carrying a heavy load, triggers a growth response in that bone. Conversely, bones lacking in stress or compression weaken. Lack of exercise is one of the causes of the epidemic of osteoporosis today.
- release growth hormones (page 247) and testosterone. Weight training makes you younger and more virile.

Stretching is another vital form of exercise. Frank Lipman¹¹⁵⁸ explains how flexibility may be the most important factor in maintaining your athletic ability as the years go by. Yoga (page 210) and pilates are excellent forms of stretching exercise for people of all ages, in all states of health. I strongly recommend learning at least a few postures to mix in with the other exercise that you do. Flexibility is central to maintaining your body's physical and mental facilities over the years.

Walking. Your body is designed to walk. Modern life, with its long periods of sitting at desks, sitting on couches, sitting in cars, sitting at dining tables and sitting most of the rest of our waking hours denies our backs this most fundamental need. Walking is your best protection against developing back pain. Walking briskly exercises all your major muscles,

gently massages the abdominal organs and assists with digestion. A 15 year study showed that a regular 30 minute walk is an effective form of weight control.¹⁴⁵ It is relaxing, and provides the opportunity for deep and regular breathing. Walking has substantial benefits for your cardiovascular system. It lowers your blood pressure and reduces your chances of a heart attack or stroke. Walkers are less likely to develop type II diabetes.

Gardening is another great form of exercise. It has wonderful benefits in addition to stretching, strengthening and cleansing your body. It connects you with the earth. It exposes you to a wide variety of microorganisms, exercising your immune system and populating your skin and digestive tract with essential bacteria. It's a form of meditation. It directly connects you with new life, planting and growing and reaping. Of course, it also gives you the healthiest possible food.

WEIGHT LOSS

High intensity aerobic exercise that causes a rapid pulse, fast breathing and lots of sweating may make you aerobically fitter, but is not an effective way to shed fat. Rather than burning fat, this kind of exercise uses the energy that is most quickly and easily available to your body – the glucose stored as glycogen in your muscles and liver. The average adult stores about 2,000 calories of glycogen, and would seldom get close to using it all except when “hitting the wall” in a marathon.

When you start an aerobic exercise, your body first uses the energy stored as glycogen. However, after about 30 minutes of sustained but comfortable exercise, your body makes an important switch. Instead of burning glycogen, it starts to burn stored fat. After 30 minutes, more than half the energy you are using comes from your fat! If you exercise at least three times a week, an even higher proportion of fat is used.

To burn the fat stored around your body, your aerobic exercise should be at a *moderate* level, and of *long* duration¹³⁶. The secret is that your

breathing should be deep and controlled, with no sense that you are out of breath. Fat needs plenty of oxygen to burn.

A fat-breaking enzyme called hormone sensitive lipase is released after half an hour of exercise, with significant amounts available after an hour of continued exercise with deep breathing. This enzyme remains active for up to 12 hours. The longer you exercise at this sustained level, the more the enzyme is activated. It has a long-lasting and direct effect on breaking down the fat in your body.

Oxygen is one of the keys to burning fat. Fat, at 9 calories per gram, contains more than twice the energy of glycogen (4 calories per gram). Fat, being calorie-dense, needs plenty of oxygen to burn. If you breathe deeply while doing aerobic exercise, you can burn fat. However, as you exercise harder, less oxygen is available in your body. If you exercise at a rate where you become short of breath, your body is forced to get its energy from your blood glucose and your stored glycogen.

If you are unfit and overweight, the best exercise to shed fat and get back into shape is sustained fast walking. Active housework, swimming, gardening, or other sustained activity is also suitable. Keep it to a level you can maintain for at least half an hour.

Fat burning is also discussed under the Ketogenic diet on page 251.

I suggest you exercise on an empty stomach. Digestion uses an enormous amount of energy, so if your last meal is fully digested you will have more, not less energy available. The feeling of a full gut does not assist with any kind of exercise. If you exercise with a full stomach, your digestion is slowed or halted. The food sits as a dead weight until you rest and digestion starts again. On an empty stomach, the glycogen stored in your muscles and liver is used up more quickly, after which you start to burn fat.

HOW MUCH?

How much exercise did our paleolithic ancestors get? Research suggests that early hunter gatherers walked between 8 and 16 kilometres each day. In addition to the walking, there would have been short periods of chasing prey, or being chased by a predator. At regular intervals, there would have been the work of building shelters.³⁶³

Although there was some division of labour, the entire tribe did a lot of walking and got a huge amount of exercise compared to people today. They were active and moving their bodies for large parts of the day, in strong contrast to modern people who spend large parts of their day sitting.

Humans have no innate attraction to exercise more, in the way we are attracted to sweet foods, sex, kinship with other people, or relaxation. This implies that throughout their evolution, paleolithic people got more than enough exercise. There was no need to evolve an instinct for more exercise.

So for optimum health and longevity, we do need to exercise, but less than the paleolithic hunter-gatherers had to.

You need to exercise virtually every day. You cannot justify doing twice as much half as often or being a “weekend warrior”. The exercise does not always have to be heavy. Any movement, hourly and daily, is beneficial. Get up, stretch, and walk around. Avoid sitting for long periods or hours of inactivity.

A large study⁴⁴⁷ found that the sickest people and those at the most risk of death are those who do no exercise whatsoever – in other words, those who are classed as [inactive](#). The researchers found that even small increases in activity in those inactive individuals had big benefits.

What is the right level of sustained exercise activity? A rule of thumb is that you should just be able to carry on a conversation while you exercise. If you cannot talk, then ease off a bit. Alternatively, if your heart and breathing are not much faster than normal, you can exercise harder.

A rule that some trainers use is that your maximum heart rate should be 220 minus your age in years. Ideally, while you are exercising, it should be 65% – 75% of that figure. For example, a 50-year-old person should have a maximum heart rate of 170, and should ideally exercise at a rate of 110-130.

If you are very **unfit** and take your heart rate to approximately 85% of its maximum for more than 10 minutes, you can damage your body and accelerate your ageing. In unfit people, this level of exercise releases excessive free radicals. Those who are genuinely fit seem to be protected from the adverse effects of a high level of free radicals provided they have a good diet with plenty of antioxidants.⁸⁸

If you live a **sedentary life**, avoid short bursts of intense exercise. If you are short of time, you cannot compensate by trying to pack a full day's exercise into just a few intense minutes. If you have been inactive all day, a few minutes of vigorous exercise *raises* your blood glucose level, followed by a damaging rise in insulin and cortisol levels. On the other hand, low intensity exercise for an extended period combats metabolic syndrome. It not only helps to reduce fat, but also helps maintain a stable blood glucose level and increases your insulin sensitivity.

Pain. Should you exercise to the point where it hurts? If you have any sharp pains, stop. Your body is telling you that what you are doing is hurting or damaging. You may be injuring a muscle, a joint, or your heart.

You may have a feeling of burning in your muscles during isotonic exercise. It may be uncomfortable breathing during intense aerobic exercise. You may feel nauseous or dizzy when toxins are released into your bloodstream as you burn stored fat. Keep your exercise level to a pace where these feelings are acceptable. They will improve as you get fitter!

Sustained or strong pain is unpleasant for most people. You want your exercise to be enjoyable and something you look forward to. This may involve a minor level of pain whilst you are doing it, more than compensated by feeling great afterwards.

I suggest a minimum of 30 minutes **aerobic** exercise per day. It is also highly beneficial if you break it into [three ten minute sessions](#). This is not a lot when you compare it to the daily activities of our early and even recent ancestors. If you are sitting at a computer or desk or driving a large part of the day, it is important to compensate for those long periods of inactivity. For example, I walk rather than drive everywhere that I possibly can. A fifteen-minute walk to the shops would have taken half that time to drive and park anyway, so it is an efficient use of time. I get my day's exercise, save some car mileage, and make a small contribution to cutting down on traffic congestion and air pollution. I usually use the stairs rather than an elevator, and take the opportunity to stretch, yawn and deep breathe wherever possible.

Your resting, or base **metabolism** is the energy you need just to stay alive. While you are resting, many body systems are still active. You need to breathe, your heart beats, you need to maintain your body temperature, your brain is functioning, digestion may be taking place, and so on. You still use energy and generate waste products when you are lying down doing nothing. Your base metabolism can use as much as two thirds of your energy needs. An average 68 kg adult burns less than half a calorie per minute while sleeping, or the equivalent of about a 100-watt light globe. If you start any additional physical or mental activity, this basic energy requirement rapidly increases to around 200-400 watts (activity such as walking, housework, sports, office work, gardening, sex and all the social and living activities you do every day). 20-25% of this energy is used by your brain, depending on its level of activity.

Aerobic exercise does not burn many calories. Running a mile burns an average of only 300 calories – hardly half of a typical meal. Walking burns about half as many calories as running - between 290 and 430 calories per hour, depending on your weight, walking speed and other factors. Other daily activities such as gardening or active housework consume a similar level of energy. You need to do enough exercise to burn at least 2000 calories per week. If you lead a moderately active life, doing housework or other light physical work, gardening, walking, moving, dancing and

keeping on the go, and you also do at least 30 minutes aerobic or cardiovascular exercise each day, then you will easily burn that much.

When you do sustained exercise such as running, swimming or cycling, your metabolic rate goes up by 8-10 times its resting value, and remains higher for up to 15 hours after the exercise.

Interval training. Research ^{138,139,140,141} shows that short bursts of more intense exercise during your extended exercise program are very effective for losing weight. When you are fit enough, a few minutes of faster walking, jogging, swimming or whatever will get your heart and breathing rates up. Then ease off, and let your pulse and breathing return to the levels before the exertion. Do this once or a couple of times during the session. *Do not do this until you are fit enough, or you risk damaging your body.* Several studies ^{138,139,140,141} have found that these high-intensity intervals are extremely beneficial. They:

- Increase your life-expectancy.
- Make you fitter.
- Stabilise your metabolism, moderating your blood glucose and insulin levels.
- Improve your blood fat/triglyceride profile. ²⁴¹
- Improve your rate of weight loss.

For the average adult, I suggest a *maximum* of 60 minutes **resistance exercise** in a day, depending on your level of fitness. Thereafter cortisol levels rise, testosterone levels fall, the benefits are lost and your ageing accelerates.

When you do intense resistance exercise such as weights at the gym, you create micro-tears in your muscles. This is quite normal and beneficial, leading to the production of hormones to repair them. If you are young and healthy this repair can occur in 24 hours, but for most adults restoration takes 48 hours. For this reason, I recommend doing isotonic exercise every second day, and rotating the groups of muscles that you exercise each time. Exercise the same muscle once, or at that most twice

in the same week. For example, you can do legs and abdomen on Monday, neck, back and chest on Wednesday, and shoulders and arms on Friday. Of course, you can still do aerobic exercises every day.

First, gently warm up your body with some stretching and aerobic moving exercises. When warm, you are ready to do your weight or resistance exercises. For each muscle group, first do a warm up set of 12-15 easy repetitions. After a rest of perhaps a minute, do a second set of 6-10 medium to heavy repetitions, which should take those muscles to exhaustion. Depending on your training program, do not do any more sets (or at the most, do one more set of 14-18 repetitions). This is the optimum for rebuilding your muscle strength and bulk, to lower your biological age. The medium heavy repetitions should be at 80% of your one repetition maximum (1RM). This is the heaviest weight that you can lift only once.

As you lift each weight during the repetitions, do not let it loosely fall back to the starting position. Keep the pressure on it all the way down. The greatest benefit from isotonic exercise comes as your muscle is lengthening while under load.

Ideally, you should have a walk, or do some other sustained aerobic exercise after the isotonic exercise. Remember, it is only after 30 minutes of exercise that the hormonal changes occur that cause your body to burn fat rather than glycogen. After the resistance exercise your body will be in this mode, and during your walk you will burn stored fat.

It is possible to **over-exercise**, with a disproportionate number of long-distance runners and tri-athletes presenting with immune, gastro-intestinal, muscular-skeletal and respiratory problems. Long-distance athletes generally use 10-20 times more oxygen than people with sedentary lives do. It would seem obvious that with the raised levels of oxygen passing through their blood and cells, they would also generate higher levels of free radicals. Athletes who suffer weakness or pain for days after their exercise are obviously over-doing it. Athletes need higher levels of antioxidants to provide protection against the raised level of free radicals in their bodies.

It is not a good idea to do more than an hour of intense exercise, where you are challenging yourself and pushing your physical boundaries. After an hour of heavy exercise the benefits diminish, and the risk of harm or damage increases.

If you exercise excessively, your cortisol and free radical levels rise. Intensive aerobic exercisers such as marathon runners and those who exercise in polluted cities breathe in high levels of nitrogen and sulphur oxides, and ozone that can impair their immunity and open them to infections.

TIPS TO GET STARTED

- Before you start an exercise program, check with your doctor. You may have to get through a short, perhaps slightly painful and sometimes risky period of adapting your body to sustain daily activity.
- Any movement is better than no activity at all. Even very little exercise has big benefits. ³⁶² Five minutes cleaning up the lounge, ten minutes vacuuming the carpet or weeding in the garden and a walk to the shops all add up and are highly beneficial. If you only have a few minutes available to exercise, use that time for a walk, stretch, or any other kind of movement.
- You are never too old to start. In fact, the greatest benefits from weight training are among the elderly. You can start with weights as light as your water bottle.
- The good news is that as you get fitter and your health improves, it gets easier. Most people who have persisted with an exercise program report that what in the beginning seemed like a chore became sheer pleasure after a month. Once your body becomes accustomed to exercise it craves more, as your muscle strength builds up and you get fitter.
- Find an activity, sport, task or exercise that makes you happy, that is engaging and fun. If you do it on your own, that is OK. If it is with people, enjoy their company, do not compete.

- Enjoy your exercise! If you are going to exercise for the rest of your life, it has to be pleasant and invigorating, rather than painful or exhausting. Exercise is *not* about getting grimly serious, fixed on achieving a regular state of near-exhaustion come rain, pollution or disenchanted spouse.

- Have a schedule in which you try to get each of the different types of exercise – aerobic, anaerobic, resistance and stretching. Also, enjoy both sustained exercise and occasional intense bursts (interval training).

- Start your exercise with a **warm up**. A few minutes of gentle exercise to raise your pulse and breathing, plus some gentle stretches prepare your body for the exercise to come. It also reduces the risk of muscle tears and sprains that can occur with cold and stiff muscles.

It is essential, after aerobic exercise, to keep moving while you **cool down**. When you are doing aerobic exercise, your muscles help your heart to pump your blood around your body. If you stop suddenly, your heart immediately has to take up the extra load. This puts a dangerous strain on your heart. If you have been jogging for example, taper it off with a few minutes of walking. You can also gently stretch for several minutes, whilst breathing deeply (no bouncing stretches). The cool down period also helps remove waste products such as lactic acid from your muscle tissue.

BREATHING

AN IMPORTANT SECRET

Do not underestimate the importance of good breathing. If you practise everything else, and yet breathe poorly, you will not attain perfect health and great age.

Most people do not breathe properly. *They do not even know how to breathe!* The typical adult uses only the least efficient, top part of his or

her lungs. They take many more breaths than they need to, all short and shallow.

To add to the problem, city air is often chronically deficient in oxygen (page 290). We tend not to breathe as deeply in a polluted and oxygen-deficient environment.

The average adult breathes about 10,000–12,000 litres of air each day. The oxygen that ends up in your bloodstream depends upon the level of pollution and ionisation in the air, and the effectiveness of your breathing.

Most people use less than one seventh of the capacity of their lungs, breathing at a rate of roughly 15 - 20 times per minute. Those who have developed good breathing techniques and are using their lungs to the full, may take 4 – 6 breaths per minute. Sages who have developed extraordinary powers of health and longevity may breathe at even slower rates, depending on the techniques they have chosen.

The passages in your throat and lungs are wet, or at least they should be if you are drinking enough water. They are covered with mucus, and the wet sticky surface traps most of the dust and other particles in the air. Hair-like structures called cilia line these passages, and in a healthy respiratory system, they help move the contaminated mucus back up to your throat and mouth. Cigarette smoking kills or stuns the cilia resulting in a lot more pollution going down into the lungs, not just the cigarette smoke. If you stop smoking, the cilia will eventually recover.

If the mucus gets too dry or dirty, a crust develops and clogs your breathing passages, and the cilia can no longer perform their sweeping action. Additional dust and debris accumulates, and the antibodies in your air passages are overwhelmed, making you vulnerable to colds and 'flu.

Try to breathe in through your nose – here is why. The airway in your nose is not a straight passage, but instead it has bulges and convolutions that make the airstream turbulent, so that it covers a greater surface area. This moisturises and warms the incoming air, and protects your lungs from coldness and dryness. Your nose is also an effective filter for

dust, microorganisms and pollutants. This explains why ethnic groups that developed in cold or dry desert climates have longer, more substantial noses with narrow nostrils – the cold or dry air is forced over a greater surface area of warm, moist lining before entering the lungs. In contrast, groups from warm humid climates tend to have short flat noses, which take less effort to breathe the air that is already warm and moist. In cold and dry climates, you should breathe both in and out through your nose. The out-breath replenishes the heat and moisture from the inhalation. In a hot humid climate, you can use exhalation through your mouth as a method to expel excess heat.

When at rest, your brain uses about 20% of the total oxygen used by your body. A good oxygen supply is critical for your brain. If it does not get enough you will feel drowsy and have negative, even depressing thoughts. People with sedentary jobs who spend most of the day in poorly ventilated city offices are particularly at risk. With a long-term lack of oxygen, you will become irritable, senile, negatively affected by alcohol, and your senses of sight, hearing, taste and smell will deteriorate. Chronic under-breathing can cause chest pains and palpitations, muscular pains in the chest, neck and back, tingling and numbness in the limbs, fainting, blackouts, dizziness, and visual upsets, digestive problems such as irritable bowel syndrome, depression, poor sleep patterns and nightmares.

The most important measure of the health of your respiratory system is the volume of air you can blow out after taking the biggest inhalation that you can. After you have exhaled, there is always a little air left in your lungs – the residual volume. The less air that remains the better, because the toxins in your lungs are exhaled completely, rather than being recirculated. The wider your lungs can expand, and the smaller they can contract is a measure of the elasticity of their tissue. Young and healthy tissue is quite flexible.

You can divide your nervous system into conscious activities that you directly control, such as moving a hand or a foot, and autonomic or subconscious activities, such as your heart beating or the movement of your colon. Breathing is normally an automatic activity, but with your

intention you can bring it under conscious control. Unconscious breathing does a poor job of emptying your lungs completely, and waste elimination is inefficient.

Deeper and fuller use of your lungs has remarkable detoxification, healing, energising and rejuvenation effects. You can learn how to breathe slowly and deeply, filling and emptying your lungs completely. The in-breath should first fill your abdomen, and then fill your chest. You can hold it for up to a few seconds. Depending on the type of breathing, you may also pause after the out-breath. The rich levels of oxygen that fill your body from controlled breathing, particularly during meditation or healing therapy, lead to clear and creative thinking, emotional opening, and senses that are more acute. Breathing is the focus (object) of some types of meditation.

Your breathing reflects your emotions, and you can use it to access and control them. Shallow breathing or holding your breath is associated with danger and can generate feelings of fear. Anger has a certain tight way of breathing with shallow inhalation and short, panting exhalation. Sadness creates irregular breathing, like when you are sobbing. On the other hand, feelings of joy, vitality and strength induce deep, confident breaths.

When you breathe deeply and consciously, suppressed or subconscious feelings can begin to surface. Some people find it relatively easy to experience, acknowledge and face the feelings that come up. It is then possible to release them and move on. Others, who are more rigid, closed, suppressed or in denial may find they are unable to let go of their shielding around their feelings.

The more civilised and intellectual you are, the less likely it is that you will breathe deeply and truly feel your body, your emotions, and the instant in which you are living. It really is the difference between being awake and being asleep.

All the Eastern philosophies include a variety of breathing exercises, especially the Taoists. Controlled breathing is an effective form of medical therapy, and has been a formal branch of Chinese medicine for over 2000 years. Chinese doctors have long recognised that poor breathing causes a

variety of diseases, and a loss of strength and energy. They prescribe breathing exercises to cure a wide variety of diseases. The Western world does not even have a specific word that denotes breath control. Western doctors have little understanding of the air and how its ionisation is the basis for health and longevity.

In Ayurvedic medicine, the ancient healing art of India, breath is the link between the body and the mind / spirit. The *prana*, or breath, profoundly influences the entire body, mind and spirit. Breathing exercises, called *pranayamas*, are taught to maintain and heal the whole being. They are also the basis of yoga.

Some smells and scents contain bioactive energy, which your nose efficiently directs into your bloodstream. Ancient Arab physicians observed that perfumers and incense makers rarely succumbed to plagues of cholera and other diseases. This observation led to the development of aromatherapy, in which the essential oils of various plants are used to cure specific ailments. Glands in the roots, stems, leaves, seeds and flowers of plants produce these oils, which are extracted in a concentrated form. Aromatherapy works only with oils extracted from living plants – synthetic scents have no therapeutic value. Essential oils that are good for your skin and you can add to a base oil or your skin cream include frankincense, rose, patchouli, jasmine, sandalwood, lavender and geranium.

CLEANING YOUR NASAL PASSAGES

You can do a nose douche to clean out your nasal passages and restore their self-cleansing ability. If your nose is lined with crusted mucus, it constrains your ability to breathe deeply, as well as doing a poor job in filtering, warming and moisturising the air going into your lungs. A douche or *neti* as yoga practitioners call it, loosens and flushes away dried encrusted mucus and other debris. You will be amazed at what comes out the first time you do it. After washing the sensitive olfactory nerve endings, your sense of smell will be renewed. Your taste will also improve, because it is closely linked to your nose. More importantly, whether you practise deep breathing or not, there will be less resistance during each

inhalation because of the clear passages, and your lungs will naturally fill further. You will feel more vital and energetic, and will be less likely to suffer a head cold or respiratory disease.

You can do a douche perhaps once a month, depending upon the level of pollution in the atmosphere in which you live. Warm half a litre of clean, preferably filtered water to body temperature, and dissolve $\frac{1}{2}$ to $\frac{3}{8}$ of a level teaspoon of sea salt in it. If you get the right temperature and salinity, it feels quite comfortable and does not burn when in your nose. Put the solution in a container with a spout, such as a plastic squeeze bottle or a small teapot. Sit down, turn your head to one side, and insert the spout in the upper nostril and pour. If your nose is not too blocked, the solution will come out of your lower nostril. If there is a blockage, you may have to suck a bit. Be careful not to swallow or inhale the water. After pouring out half the solution, change sides. Finally, block each nostril and vigorously blow out the other. This is the point where all the gunk emerges!

TYPES OF BREATHING

Chest Breathing

The delicate lungs of a foetus spend months immersed in the warm, liquid security of the mother's amniotic fluid. A newborn baby's first breath is surely a cry of pain. Many people never get over that trauma, fearing more anguish if they breathe fully.

Society reinforces this life-sapping childhood habit throughout the rest of our lives. As children, many of us learned that being totally alive and expressive was unacceptable to the adults around us, and we learned to stifle that vitality by holding our breath. Our parents and teachers tell us to stand up straight, pull our tummies in, and puff out our chests. This applies at school, in the military, and at both work and home. Remember the last time you met someone important or whom you wanted to impress. Try to feel the posture that you adopted!

Apparently, the most attractive models are those with big chests and breasts and board-flat stomachs. These beautiful people breathe into their upper chests, and pull in their stomachs. Some clothes are

constricting around the waist. Such fashions restrict deep breathing, forcing it to the top part of the lungs. This is also the natural tendency for most Western people when they see an attractive member of the opposite sex. Men particularly, stand up tall, pull in their loose and sagging gut, and puff out their chest in a swagger. This is precisely the wrong way to breathe.

Laziness, ignorance, stress, constipation, pollution and smoking all add to the over-reliance on the muscles high in the chest area used to breathe in.

To expand your chest, you contract the intercostal muscles around your ribs. This creates a vacuum in your upper lungs, so air is pulled in through your trachea. Air does not get into your lower lungs, with their greater surface area and rich network of blood vessels and alveoli. The most efficient part of your lungs remains unused! The tissue in your lungs is designed to be continually stretched and contracted, and this lack of use will gradually ossify your lower lungs.

If you are not fully using all of your lungs, you will need to take about three times as many breaths just to get the same volume of air.

Clavicular Breathing

We tend to use clavicular breathing when we are extremely stressed or fearful – the clavicles (collarbones) expand and contract only a narrow upper portion of your lungs. It does nothing for your health, posture and emotions. People who continually breathe like this are prone to anxiety. Victims of asthma and emphysema breathe this way all the time. Their breathing sounds like a panting dog – it needs to be rapid just to get sufficient air to stay alive. Their heartbeat has to be rapid to pump more blood to pick up the small quantity of oxygen that their lungs ingest. If you notice that you are breathing this way, take a few slow deep breaths right into your belly, holding each breath for a few seconds. Exhale slowly through pursed lips. The anxiety will disappear!

Diaphragmatic Breathing

Look at a sleeping infant, or a cat or a dog stretched out for its daytime snooze. Their whole being is relaxed. Notice that their belly is the focus of their breathing action. Your diaphragm is the key to deep, powerful breathing which uses the lower part of your lungs.

Your diaphragm is the layer of muscle and membrane that separates your chest (thoracic) cavity from your gut (abdominal) cavity. When you breathe in deeply, your diaphragm contracts and descends, and your gut pushes outwards. As you continue inhaling, the top of your chest fills, and your ribs expand. In good breathing, your lower lungs fill first, from the bottom up, followed by your ribs fanning out and chest expanding.

When you breathe out, your diaphragm relaxes and rises back up. In the second phase of exhalation, you can squeeze out the remaining air from your chest. Singers and people who play wind instruments learn to use their lungs in this way, more than doubling the capacity of each breath.

The lower part of your lungs has a richer blood flow (perfusion) than the upper part. Not using your lower lungs is an unnecessary waste, leading to under-oxygenation (hypoperfusion) of your blood, under-removal of carbon dioxide and other toxins, and consequences such as a low level of energy and degenerative diseases.

Ironically, breathing with the belly will also give you a better-looking body. Pushing your belly out on the in-breath, and pulling it in on the out-breath, develops your muscles in harmony with your breathing rhythm. You exercise all the muscles required to push, pull, and hold, rather than just sucking in. You work out a wide variety of muscles, your liver, spleen, intestines and entire abdominal cavity are continually massaged, and your gut area looks and feels firm and toned. Do not worry – breathing in this way will not give you a potbelly – just the opposite.

BREATHING EXERCISES

Breathing is normally an unconscious process. Improving your breathing needs a period of training where you use conscious intention until it becomes automatic. It is simply a matter of doing the exercises, and at other times during the day, when you remember, paying attention to how you are breathing.

You will find that you have more energy almost immediately. You can start applying diaphragmatic breathing in real life situations, such as when you are face to face in conflict with someone, when you feel overwhelmed, depressed, tired, sick or stressed.

Phone Book Exercise. This exercise is an introduction to deep abdominal breathing, clearly showing you how your abdomen moves as your lower lungs expand and contract. Lie on your back on a firm surface such as a carpet or lawn, but not a bed. Place a phone directory book on your abdomen, just touching your lower ribs. Put your hands by your sides with palms facing up. Your legs should be straight and slightly apart. Totally relax, and listen to your breathing. This exercise has four stages to each breathing cycle – inhalation, retention, exhalation and a pause. You will find it slows down your rate of breathing, and your goal should be 4–6 breaths per minute.

Inhalation. Breathe slowly through your nose, through flared nostrils, drawing air into the bottom of your lungs by lifting the book. Aim to inhale for four seconds. Now hold the book as high as you can as you continue to inhale through your nose. Hold it up there, as you complete filling the top part of your lungs.

Retention. Hold your breath for 2-5 seconds. This stage is essential because it triggers cellular respiration or the dive response. This is the energy mechanism used by diving mammals such as seals or dolphins. The human foetus also receives and uses energy and oxygen in this manner. The heartbeat more than halves, blood pressure is reduced, and considerable heat is produced. Adult humans still have this response, but most have lost it through lack of use. Do not hold your breath for longer than 10 seconds without the instruction and guidance of an experienced teacher.

Exhalation. When you exhale, start by lowering the book. After the book is as low as it will go, then squeeze your chest and exhale from the top part of your lungs. Your out breath should take 50-100% longer than your in breath – at least six seconds.

Pause for 3 seconds. This will give you an air hunger to stimulate a healthy inhalation.

Do not force any part of this exercise beyond your natural capacity. The entire breathing cycle should be smooth and flowing. At first, you may have a few splutters, bursts of breath, or stalls, but this is quite normal. Eventually, your breathing will become smooth, regular and rhythmic.

Practise the phone book exercise for 10-15 minutes first thing in the morning, and again before you go to bed, until you have a good feel for how your abdomen is the key to using your lung's full capacity. Once you have the feel for belly breathing, do the exercises in standing or sitting positions. Eventually your unconscious everyday breathing will use your abdominal muscles without your having to think about it.

Breathing exercises in the sitting and standing positions still use the four stages of inhalation, retention, exhalation and a pause. Focus on the slow, smooth, deliberate rhythm and regularity of each stage, rather than on prolonging them. At first your lungs, diaphragm and whole respiratory system will resist the rigors of this natural way of breathing because of the long neglect. With perseverance and daily practice, the energy boost becomes so obvious that it is hard to break.

Standing. A good standing posture has both your feet firmly flat on the ground, with your knees bent ever so slightly. You centre your weight over your hips, with your chest and head balanced in line above them. Standing is the best position, because it lets your blood circulate freely to all parts of your body, it does not interrupt the free flow of energy through the energetic meridians (chakras), and it provides the maximum potential gradient between heaven (the head) and the earth (feet). The ancient masters used to refer to a person's stance as his/her horse. They had a saying, "a man is only as strong as his horse."

Sitting. You can deep breathe while driving, sitting at your desk, or working. The idea is to do it whenever you think of it: develop your belly breathing so that it becomes automatic, all of the time. If you are able to sit cross-legged on the floor or on a cushion, this is a good posture. It is easier and more comfortable if you sit on a phone book covered with a

cushion. This will tilt your pelvis forward, and keep your spine erect. Try to sit in the lotus position, where each foot is on top of the opposite calf. Most Westerners are not flexible enough to do it, and the few who can find it uncomfortable. A good compromise is half lotus, where only one foot is on top of a calf. The lotus positions are stable, with the spine and head balanced above a firm foundation.

Breathing Modes. Taoists refer to two types of breathing. The *Warrior's Breath* is a powerful, audible, forceful and deliberate way of breathing. It requires your focus and attention. It stimulates your systems for battle, i.e. activity. Use it for breathing exercises aimed at raising your energy level, strengthening your body, and promoting physical health and vitality.

The *Scholar's Breath* on the other hand, is silent, natural, gentle and relatively effortless. It is calming, suitable for meditation, concentration, contemplation, and breathing exercises before you go to sleep. Use it during your daily activities, such as walking, reading, working, and so on. Although it does not require the same focus and attention as the Warrior's Breath, try to remain aware of the process, and ensure that all four stages of breathing are rhythmically performed. When using the Scholar's Breath, your diaphragm is still the key to breathing.

You can use either mode to perform any breathing exercise – they are not exercises in themselves. You can also use combinations of the two during any exercise or meditation, depending on the effect you wish to achieve. For example, you may wish to stimulate your energy with Warrior's Breath when you start a meditation, and then use the more passive Scholar's Breath. With experience you will become familiar with the subtleties of each mode, and know intuitively when to use them.

Tongue Position. During breathing exercises, and when doing yoga, you normally place your tongue in the yoga position. Put the tip of your tongue where your front teeth emerge from the roof of your mouth, and then slide it a few millimetres backwards. It should be resting on the alveolar ridge, the soft tissue between the teeth and the roof of the mouth. This completes a bio-energetic connection in your body, and

encourages you to breathe through your nose. In those breathing exercises where you breathe through your mouth, you still maintain this tongue position.

Bellows Breathing is a good detoxifying exercise to purify your lungs and blood. The additional oxygen in your blood also stimulates your metabolism, so you can use it to wake up if you are feeling physically sluggish or mentally drowsy. It calms you, restores emotional equilibrium, stimulates your digestive system, and gives you a boost of energy.

This yoga breathing is completely different to the other exercises discussed so far. I particularly recommend it to those exposed to polluted air such as smokers and city dwellers. It opens the air passages in your throat and head, purges the stale air throughout your lungs, and flushes the alveoli of accumulated toxins.

It is not a hyperventilation technique, which would quickly raise your oxygen level. Rather, the bellows breathing activates your central nervous system and energy centres.

Sit or stand with your back straight, eyes closed, and tongue in the yogic position with your mouth closed. Start with a strong contraction of your abdominal muscles to expel all the air from your lungs. Let your lungs refill naturally, using little effort, until they are about half full. There is no pause or retention of breath in this exercise – only inhalation and exhalation. When your lungs are half-full, again forcefully expel all the air. Repeat this cycle at a rate of one to three breaths per second. As this is a detoxifying exercise, your lungs should never be more than half-full while you are doing it. The emphasis is on exhalation and expulsion, rather than the in-breath.

This is real exercise – your muscles will get tired. The first time you do it, try to keep it up for 20 seconds. Each day, increase it by up to 5 seconds, until you can do bellows breathing for two minutes.

When you return to normal breathing, you will feel a subtle tingling of energy throughout your body, perhaps concentrated in your arms. You will feel more alert and awake. As you gain experience with this exercise, you will become aware of the energy it creates. It can warm you if you are

cold, re-energise you if you are feeling drowsy after lunch, or wake you up if you are feeling sleepy while driving.

If you feel light-headed or faint while doing it, take a long slow and deep inhalation, and pause for a few seconds before starting again. It leaves your blood highly oxygenated, so it is a good idea to take a few deep breaths at the end of this exercise to restore a normal level.

BENEFITS OF DEEP BREATHING

Breathing exercises and good breathing technique give you immediate rewards, and immeasurable long-term benefits. This key to optimal health takes little time and effort, and provides a high payback for such a small investment. The Taoist view is that the energy and detoxification provided by good breathing is even more important to health and longevity than that from food and water.

Mental and Emotional. Shallow breathing or even holding your breath is associated with fear, frustration and anger. Small children often hold their breath in frustration in a conflict. Think of a time you have been fearful, and how shallow your breathing became. An excellent way to combat stress is to take a deep breath, right down into your belly. Slow breathing down into your belly is immensely relaxing and empowering. Your memory, creativity, awareness and other mental facilities are improved. Deep breathing calms your emotions, brings them under conscious control, and restores equilibrium.

Strength. If you are an athlete, learning correct breathing techniques will give you additional strength and endurance, even if you are doing everything else correctly. If you are in business, deep breathing will greatly improve your focus and concentration, give you a stronger more confident voice, and a profound sense of strength coming from your hara, or belly. If you feel over-run or stressed, deep breathing is an anchor in the turmoil, and the key to restoring calm. If you are sick, breathing is the key to your recovery. It will also help you lead a longer, more energetic, vital, stress-free life.

Posture. Good breathing improves your posture. Poor breathers typically have a weak, collapsed posture, or a military posture, with the chest stuck out and the tummy pulled in.

Health. Deliberate, controlled breathing can regulate all your vital functions. People who have practised breathing for some time can consciously regulate their pulse, blood pressure, digestion, ejaculation, hormone secretion, skin temperature and a lot more.

Deep breathing retards your sympathetic nervous system, lowering your pulse and blood pressure and suppressing the production of adrenalin. It stimulates your parasympathetic nervous system, promoting your digestive, eliminative, immune and other functions. It is primarily the retention phase in diaphragmatic breathing that results in these beneficial nervous responses. It is a highly effective form of protective therapy against the nervous stresses and strains experienced by harried urban dwellers.

Deep breathing massages your liver, spleen, intestines and the glands in your abdominal cavity. This assists with digestive peristalsis (digestive movement). It stimulates the secretion of hormones, with particular benefit to your digestive and immune systems. There is a measurable increase in the helper / suppressor ratio of your T lymphocytes.

No matter how polluted the air is, we must continue to breathe. Good breathing techniques help you to extract the maximum amount of oxygen from the air, and so will minimise your intake of pollutants. It is not advisable to do aerobic exercise in severely polluted air, as the exercise will increase the volume of air and pollution that passes through your lungs.

Energy. Slow, deep breathing provides more arterial oxygen saturation than shallow rapid breathing, even though the volume of air breathed by the shallow rapid breathing may be greater. Slow and extensive use of your entire lung's spongy tissue takes in far more oxygen, and exhales more toxic waste gases than fast and limited use. Oxygen is the key ingredient in our metabolism. Any restriction on our breathing, or

pollution in the air we breathe, can upset the production of the ATP energy molecule and restrain our energy and vitality.

Lung Capacity. Full and deep use of your lungs stretches your lung tissue, as well as making it more flexible. Studies in China have shown that people taking up the practice of deep breathing can increase their lung capacity by over a litre after a year of training.⁵ With the additional lung capacity, these people can breathe even more slowly.

Longevity. Taoists maintain that each of us is given a fixed number of breaths and heartbeats for our life, so those who breathe quickly or who have a fast pulse will live fewer years. If you slow the number of breaths you take each minute, you will greatly enhance your respiratory efficiency. The rich level of oxygen in your blood means your heart will not need to pump as hard, and it will have more time to rest between each beat. You will conserve vital energy and live longer.

Detoxification. Your breath is one of the means by which your body excretes toxins. It is the primary means of expelling carbon dioxide, and an important outlet for small quantities of other wastes. I am sure you have smelt the breath of someone whose body has a toxic build-up, particularly if his or her liver is functioning poorly. Their foul breath is a reflection of their internal state, and the result of each organ's attempts to get rid of the toxins by all possible means.

Detoxifying or cleansing breathing stresses exhalation. If you find yourself spontaneously sighing during the day, it is an indication that you have a build-up of toxins that some deep breathing could rectify.

For example, after you have had an alcoholic drink, most of the alcohol is broken down and removed by your liver, but your breath also expels small quantities of the alcohol in your blood.

Spiritual. Eastern philosophers have been aware of the relationship between breathing and the spirit for thousands of years. Breathing integrates the air and the environment with your body, mind and spirit. Yogis and sages of all disciplines use breath control to expand the consciousness. Deep breathing at a rate of less than four times per

minute stimulates the pineal gland. This is one of the keys to the opening of the sixth chakra, and clairvoyance.

Sleep. Deep breathing exercises before bed slow your heartbeat, regulate your respiration and relax your mind. Many people suffer from sleep apnoea, a disorder in which shallow and irregular breathing cause a deficiency of oxygen to the brain, so the victims sleep lightly and wake up many times during the night gasping for breath. Twenty minutes of deep diaphragmatic exercises before bed establishes a good breathing pattern and strong pulse that will eventually develop into a habit while sleeping. It will also reduce the amount of sleep you need by up to an hour.

YOGA

Where else can you get three youthening secrets - exercise, breathing and meditation - in one package? For those who have never tried it, yoga conjures up pictures of gurus, swamis and Eastern holy men standing on their heads while performing impossibly contorted poses. However, the yoga that is making inroads in every Western city today is more practical and has no religious connotations for most of the people who practise it. No matter what physical state you are in, I thoroughly recommend yoga. Even if you have a bad back and a highly inflexible body, there are gentle beginner's postures you can start with. Yoga is an excellent way to assist with recovery from injuries.

Over a period of 60-90 minutes, you might perform 20 to 60 postures (asanas), depending on the style of yoga. All the while, you focus on deep, rhythmic breathing.

There are several different styles of yoga. They generally have the same or similar postures, but place a different emphasis on the alignment of the body, holding the postures, the coordination of breath and movement or the flow from one posture to another. They all share a common lineage.

Ashtanga is the hot yoga, the most physically demanding. It is a regimented style, with each session comprising the same fixed sequence of postures performed without a break over a period of 60-90 minutes. It emphasises generating heat, rather than relaxation.

Hatha yoga is another style that is widely practised. Also known as sun and moon yoga, it emphasises both physical postures and energy centres for the purpose of cleansing and balancing, and ultimately for attaining reunion with the totality of existence. It combines both active and passive aspects of yoga, with the emphasis on passive.

B.K.S. Iyengar is an influential teacher of the Hatha style. He teaches students to hold poses for longer than other schools of yoga, and encourages them to experience the precise skeletal and muscular demands of each pose. Props such as belts, chairs, blocks and blankets are used to help get into and hold the poses.

Integral yoga is also widely practised. Depending on the teacher, it brings together different yoga styles, such as Kundalini (creative energy), Bhakti (devotion), Karma (service) and Raja (royal yoga, for the path of self-mastery).

Other yoga disciplines include Kriya yoga (work), Laya yoga (energy centres), Gnani yoga (the path of spiritual knowledge) and Tantric yoga (enlightenment through sexual practices and rituals).

Physically, yoga will develop strength in your muscles by both stretching and flexing them. It is also an exercise in relaxation, because you will not be able to get into many of the postures without relaxing some of the muscles involved. Over time, the mobility of your joints will improve, and your muscles will extend. Your body alignment and posture will look better, and your sense of balance will improve. It decreases muscular tension, helps you relax physically and mentally, improves your circulation, and assists your detoxification system.

Most exercise programs in the Western world are oriented toward developing our visible or exterior physique. Walking, running, all sports and weight training lead to a stronger or leaner looking body. The major

muscles that we present to the world are in the legs, buttocks, arms, back, chest and shoulders. Consider however, that all the other muscles in our body are equally important and deserving of exercise. An exercise program should include muscles that we are not normally aware of using, or that we would not normally think of including in our daily regime.

One of the strengths of yoga is that there are postures that encompass all of the body, exercising, stretching, squeezing and inverting a full variety of internal muscles and organs. Your eyes, face, tongue, diaphragm, urinary and anus muscles have an important part to play in many postures!

When I first started yoga in my late 40's, I could hardly touch my toes without bending my knees. Within three years, I could put the palms of my hands flat on the ground while keeping my knees straight. There were similar improvements in flexibility throughout my body. The use it or lose it principle applies with yoga just as with every other aspect of life.

Another experience I had in my first few yoga sessions was feeling nauseous. My teacher suggested I was not breathing deeply and fully, and that I had a tendency to hold my breath under the strain of the postures, rather than deeply breathe into them. Once I got over this hurdle, I found that the hour of deep and rhythmic breathing in a yoga session left my body refreshed and tingling all over. It was as if my body was saying, "thank you for the gift of the time and the effort in that yoga session."

As you gain experience, yoga also becomes a meditation. Your breathing and body sensations become the centre of your attention. The clutter of activity and chatter in your mind slows, and eventually quiets. Time fades away as the yoga session becomes an experience of being.

Relaxation is an important part of the training of middle and long distance athletes. They learn to use every muscle as effectively as possible, which means that some muscles need to be relaxed while others are performing. A long distance runner learns to relax his or her face, jaw, neck and shoulders, and have a grace and rhythm throughout the rest of their body. People who have practised yoga for some time are experts in selective exertion. Each yoga posture, which they hold for a few seconds

or minutes, concentrates on stretching or flexing a limited group of muscles. The rest of their body is relaxed, and their breathing is deep and refreshing.

Yoga requires that you treat your body with reverence. It provides a base from which you can develop many physical, mental and spiritual qualities. Your body becomes your temple. Yoga's discipline, respect, humility, dedication and attention provide a foundation for personal and spiritual growth.

Yoga is not something you can learn from a book. I recommend that you find a good teacher to get you started, demonstrate the breathing and postures, explain the philosophies, and monitor and adjust your postures. It is important that your teacher is experienced, and that you have a good relationship. A few years ago, I had back pain (something I seldom suffer) the day after doing yoga. My teacher immediately knew the answer – I had been doing a more advanced posture before I was ready for it.

SEX

WE ARE SEXUAL BEINGS

Consider how your entire life is defined by whether you are male or female. When you meet someone, your first impression is whether he or she is a man or a woman. Their charisma and power is based on their sexual energy, which may be beautiful or ugly, strong or weak. Attraction or repulsion, and dominance or submission is dependent on this energy.

Sexual energy, or drive, is the basis of personal creativity and power. The most attractive, influential or charismatic people have a high level of sexual or Kundalini energy. Sexual energy has an emotional dimension, the love between a man and a woman. If you can refine your awareness of sexual energy, with or without a partner, you have a key to new levels of consciousness, creativity and power.

With a partner, lovemaking is a powerful healing tonic. The sharing of the human life force makes you happier, younger and healthier. Without a partner, making love with yourself is a healing, affirming exercise of your body. Remember the maxim – use it or lose it.

Sex provides all the health benefits of physical exercise. It raises the pulse, increases the rate of breathing, generates internal heat, and exercises a variety of deep muscles. It reduces the tendency to eat compulsively, while raising the metabolism and burning calories. People with satisfying sex lives feel attractive, are more relaxed - love and connection are a powerful antidote to stress – and improve both their health and life expectancy.

If you are in a mutually monogamous heterosexual relationship, the exchange of bodily fluids is a more potent tonic than any herb or medicine according to many Taoist texts. According to neuropsychologist Dr David Weeks¹⁴⁶, sex three times a week in a happy long-term relationship can make women in particular look up to ten years younger. One of the reasons is that it produces growth hormone in women.

You can indulge in sex, right up until the end of your life. On average, most people over 60 say they have better sex than when they were in their 40's.¹⁰⁴ Granted, they may need a little more time and stimulation to get started. However, they have a sense of freedom and confidence that were missing when they were younger. They are willing to shed inhibitions, experiment, and find new ways of getting pleasure. The most common problems reported by the elderly are problems with erection and lubrication, and loss of libido – in most cases, easily curable.

YOUR VOICE AND AGEING

Have you noticed how most old men have a shrill, feeble voice? Many old women have a weak-sounding voice; others develop a deep, masculine voice.

Strong, young virile men speak with a deep, sexually charged voice. Women in the prime of their life have a voice that is feminine, melodious, alive and sexual.

Your voice reflects the sexual energy in your body. It is based on the self-confidence, self-love and power that you project out into the world. If your voice is weak, feeble or shrill, it is a sign that your sexual energy is low and physical deterioration of your body has started.

I have explained how one key to growing younger is thinking and acting younger, and refusing to take on the ageing expectations of those around you. If you are a man, make an effort to lower your voice. Listen to yourself speak or even better, record your voice. Then consciously make an effort to speak with depth and confidence. Most men find that their voice is weakest when they are speaking to someone who disempowers them. This can be someone who has authority over them (a boss or a parent) or a competitor. This is an important clue as to where in your life you are the most disempowered. Similarly, women may find their voice shrills or fades in certain situations.

Practise speaking with a sexually charged voice at every possible opportunity. I am not suggesting that you *act* or *talk* sexually, just that you let your voice represent the full sexual energy within you. Exercise your voice by humming, and for men, lower your voice in steps until it is as low as you can go. Just a few minutes of deep humming and chanting is a powerful start to the day, which will help you to hold your voice in a low pitch for the rest of the day.

TAOIST SECRETS

Taoism

Longevity is a Chinese obsession, and in ancient China the oldest people were treated with great respect and honour. The 8000-year-old tradition of Taoism is a complete philosophy of life – not a religion. Its principles include balance, simplicity, economy, honesty, fairness, individual freedom, education and regeneration.

It teaches boundless love for the universe and all that lives in it. In this universe, humans are tiny, insignificant and vulnerable creatures. Energy and momentum are the sources of all life and the basis of nature. It is essential to be in harmony with these sources, otherwise we are fighting

against nature and will lose. Taoism is about being flexible enough to go with the flow of nature, rather than against it. *Nothing that is forced, that goes against the flow, will endure. Only when something is comfortable and natural and flows, can it become a lifelong habit.*

The Taoist view is that nature designed the human body to live an average life span of about 100 years, and if you take measures to prolong your life, you can live to 150 years or more. In addition to the extra years, you can enjoy health, vitality, clarity, and equanimity. These benefits provide a base upon which to complete spiritual practices and growth, and to pass on these insights. If your sole purpose in using these practices is to enjoy extra years of egoistic indulgence, then you are likely to be disappointed because they require that you genuinely want them.

A Taoist is relaxed, natural, and indulges in a life that is both easy and pleasant. He or she is encouraged to cultivate better taste, healthy living, and to enjoy the beauties of taste, touch, sound, smell and carnal love. Sexual love is regarded as natural and healthy.

Taoism emphasises the harmony of man and woman, and daily non-ejaculatory sexual connection, even in old age. Thousands of years ago, they understood the phrase ‘use it or lose it’. Our sex organs are like the other organs in our bodies – they need regular use to stay strong and healthy. Healthy organs produce the myriad of hormones and enzymes that keep our bodies fit and young. Feeling young, sexual, and wanted is important at a psychological, emotional and spiritual level as the years pass. We are fundamentally sexual beings, and whatever our age, we need to love and be loved at all levels.

Sex involves deep physical, emotional and spiritual connection. Men and women secrete many different hormones and enzymes, and the best way to get some of them is from the body of a member of the opposite sex. This includes saliva, breath, sweat, genital secretions, and sometimes the breasts¹²⁴. What a delightful way of taking your medicine!

Regulation of Ejaculation

One of the secrets of vital health and long life is regular, even daily exercise of our sexual organs. However, male ejaculation represents a

massive loss of nutrients and energy. In contrast, female ejaculation is regarded as completely beneficial, and her orgasms are encouraged for the health and longevity of both partners.

Semen is a nutritious, life filled, valuable liquid in the male body. When the average man ejaculates he loses around 2-5 ml of semen, which contains 200-500 million sperm cells. The semen supports these sperm cells in a liquid treasure trove of enzymes, minerals, trace elements, proteins, vitamins, ions and hormones. Up to 3 mg of zinc is lost in an ejaculation.

Taoists say that the replacement of the semen lost in an ejaculation takes 25 – 40% of a man's daily energy output. It is even more taxing on his glandular and immunological systems.⁶ However, the greatest loss from his semen is his vital energy, life force or life essence (chi). Taoist sages maintain that semen has 100 times the vital power of blood.⁶

The loss of nutrients from an ejaculation means that your body will recoup them from wherever else they are available. Other body systems that use those nutrients will suffer. For example, nutrients that would have been used to make digestive enzymes are diverted. Unfortunately, this is the beginning of a vicious circle – poor digestion means that fewer nutrients are extracted from your food, which further weakens the digestive system, and so on.

The higher mind or spirit also stagnates with excessive ejaculation. This is why many traditional spiritual orders around the world require celibacy.

Some Taoists maintain that excessive ejaculation leads to balding, and that many men who start daily, high volume ejaculation in their early teens suffer loss of hair among other emaciating symptoms.

Simone de Beauvoir, in her book *Old Age*, describes a typical pattern of health and sexual power for a Western man. She explains how an unfortunate man by the name of Paul Leautaud broke the three basic rules of the Tao of Loving. He:

- never knew what excessive ejaculation was for his particular body;

- did not understand that ejaculation and orgasm are not the same thing;
- failed to satisfy his woman.

The story goes that when Leautaud was fifty years old, he met a woman whom he called Madame and described as “a truly passionate woman, wonderfully equipped for pleasure and exactly to my taste.” Seven years later, they still had an active sex life, but Leautaud was feeling the strain of not being able to perform as often as his unsatisfied partner wanted. He now referred to his lover as The Panther. Taoists recognize that this reflects the emaciated state of the man, rather than the sexual appetite of the woman.

Leautaud’s solution to his problem was to cut back further on his lovemaking. He felt inadequate and weak, and his woman became even more frustrated. Two years later, he referred to her as The Scourge. He still loved her, but he was tired and weak. He started masturbating – the worst possible form of release in his situation. There was no harmony of Yin and Yang in his life. He was still losing his male essence, but gaining no compensating female essence. He forfeited the touch and pleasure of a naked loving woman. Leautaud described his old age as “deep sorrow.”

Indeed, many big spending ejaculators exhibit an unconscious anger towards women. They instinctively know that women are draining them, but are trapped in a circle of pleasure without an escape. Such men will try to regain their strength, or compensate in different ways.

Megavitamins, gyms, health clubs and sports are one approach.

Aphrodisiacs, hormones or drugs are another. Frequently they will seek to compensate for their dwindling sexual powers and physical strength with money or political power. A spiritual path, good friends and a loving family may slow the process, but it will continue.

Semen creates a powerful charge of energy when retained and recirculated. Men can learn to control its loss with many different methods. If you feel the urge to ejaculate coming, it is quite OK to say to your woman to “Please keep still” for a minute, until the urge goes and your erection has reduced slightly. Withdrawal is another basic means of avoiding the urge to ejaculate. Perineum pressure is a beginner’s

technique that lets the man maintain control without the involvement of his partner. Books are available ^{3,6} detailing exercises to control certain muscles, tendons and the fascia of the trunk, so that genital pressure spreads over the entire body and semen is withheld.

The younger and stronger a man is, the more frequently he can ejaculate. According to the legendary Taoist doctor Sun S'su-Mo, born in AD 581: "a man of twenty can have one emission every four days. A man of thirty can have one emission every eight days. A man of forty can have one emission every ten days. A man of fifty can have one emission every twenty days. A man of sixty should no longer emit. If he is exceptionally strong and healthy he can still have one emission monthly." He said that a man should not withhold ejaculation for too long, or he will suffer congestion and other illnesses.

The ancient Taoist text *The Classic of the Elemental Maid* is more generous. The anonymous author(s) say that virile young men between the ages of fifteen and twenty may ejaculate daily or even more frequently if they are strong. At thirty, a strong man may ejaculate daily, most men every two days. At forty, men may ejaculate every three to four days, at fifty every five to ten days, at sixty every ten to twenty days, and at seventy every thirty days – or not at all, if they are weak.

In another ancient text, *The Secret Art of the Jade Chamber*, Yu Fang Pi Chueh advises that men aged twenty may ejaculate once every two days, at thirty once every three days, at forty once every four days, at fifty once every five days, and at sixty not regularly. ¹²⁴

Men who only ejaculate small quantities of semen are less prone to loss of nutrients and energy. A 1-2 ml ejaculation expends proportionately less than a 5-8 ml storm.

The season is also important. Taoist Liu Ching, in *The Essentials of Nurturing Life*, recommends, for a middle-aged man, an ejaculation once every three days in spring, once every two weeks in summer and autumn, and not at all in winter. This coincides with when the man's sexual essence is stronger or weaker.

A man should not ejaculate prior to a sports event or any occasion in his life where he needs high energy, strength, stamina and maximum use of his faculties. However, loving non-ejaculatory sex with a woman before such an event is highly beneficial – the mixing of both yin and yang energies and essences will harmonise, balance and empower both the man and the woman.

Research by Professor Graham Giles⁷⁵ found that men who ejaculated the most in their 20's, 30's and 40's later had 30% less prostate cancer than those who ejaculated the least. He says: "semen is a very potent and strong brew of lots of chemicals which, because of their biological reactivity, could be carcinogenic if left to lie around" and that "that frequent ejaculation prevented semen from building up in the ducts, where it could potentially become carcinogenic." This argument has merit, particularly for a modern Western man who has a toxic body. Men who cleanse their bodies using the principles in *Grow Youthful* (living food, exercise, good breathing, sufficient water, etc.) substantially reduce their risk of getting any type of cancer. Note that Professor Giles did not examine the benefits of non-ejaculatory sex, which is also likely to prevent build-up and stagnation. Nevertheless, it is a reminder that men, especially healthy young men should regularly ejaculate. This is especially important for men who have a high level of toxic accumulation.

Withholding ejaculation is something to take on slowly. Being a frequent ejaculator and then suddenly stopping could result in a feeling of discomfort or even pain around the testicles. For a newcomer, after a week or two without ejaculation, there may be some uncomfortable pressure around the testicles. Make these changes slowly.

Benefits

Some women may initially object to non-ejaculatory sex. They instinctively know that the semen they are receiving is a powerful mix of nutrients and life force. They may also take pleasure in the feeling of ejaculation, and the knowledge (power) that they have brought their man to genital orgasm. However, the benefits of non-ejaculatory sex for the woman will soon become apparent. The strength, vitality and confidence of her man will increase. Sex will change from a few minutes of focus on

the genitals to prolonged pleasure, not only in the genitals but also throughout the body. A man who has not yet learned how to retain his semen knows instinctively that he is slowly wilting away, and subconsciously resents or fears this loss.

Most men who simply ejaculate whenever they have sex, never become aware of the full power of their sexuality. You, as a man, can learn how not to ejaculate during sex, and transform the sexual energy that would have been lost in an ejaculation up into your chakras, various glands, brain and nervous system. Opening these energy channels up the spine and into the Tan Tiens (chakras) achieves a wonderful yet different kind of full body orgasm. The sexual energy develops into a new form of power and creativity based on personal love and awareness. It is different to ordinary physical pleasure. The intensity is so great that it often leads to a spiritual awakening.

A master of Tao is not anxious about ejaculation. He is free to make love far longer and more frequently than a man who regularly ejaculates. This is like being a gourmet who can eat an indefinite amount of food! He is not concerned about ejaculating too soon, or at all. He has a huge boost in self-confidence, because issues such as premature ejaculation and impotence disappear when he knows he can achieve an erection and hold it for a long period. He and his partner are not worried about pregnancy.

Regulating ejaculation leads to a long life. Taoists maintain that those who have practised these techniques often live for over one hundred years. Along with longevity comes radiant good health, lack of disease, sexual ability and enjoyment, emotional and spiritual health.

Sex without ejaculation stimulates precious hormonal secretions, instead of depleting them. His genital energy is transformed into creative energy. With a woman lover, their energy exchange and meditation supercharge their sexual energy.

Over time, a man who retains his semen and drives its energy back up into his body will gain some extraordinary powers, such as healing and clairvoyance.⁶

Sexual satisfaction, and the physical, mental and spiritual health that it creates, are reflected in the lives of the lovers. The power struggle between males and females gradually diminishes, with more harmony in work, family, relationships and personal and spiritual growth. Both men and women find this to be nourishing to their core.

Female Satisfaction

According to the Tao, the only time lovemaking can harm a woman is if it leaves her perpetually dissatisfied. This is one reason why the Tao of Loving stresses female satisfaction as a basic principle. Another is that the only way a female can satisfy a man is if she is a willing and satisfied participant herself. It is only through Yin and Yang (polarity) communion, in complete harmony, that each can fully satisfy the other, and fully benefit the other with the exchange of essences and energy.

Taoists have studied female satisfaction in detail. Jolan Chang³ discusses the five classic signs of female sexual satisfaction used over the millennia, and has chapters on the appropriate use of thrusting and positions. Touch is also an integral and essential part of a fully satisfying sexual relationship.⁴

Kissing. The Taoists regard kissing as important as the genital connection. Perhaps this is why you seldom see Chinese kiss in public – to the initiated, kissing is an integral part of the sexual act. Real kissing, deep passionate connection using your mouth, lips and tongue, involves the exchange of fluids, heat and electrical energy. Kissing is an intimate connection and penetration that completes a circuit between the lover's heads and their genitals, and harmonises the yin and yang (the female and male).

Some women can have an orgasm from erotic kissing, most find it more gratifying and intimate than routine genital sex. You can also carry on kissing after the genitals are exhausted.

Provided both the man and the woman enjoy kissing, they should kiss as deeply and as often as possible. Kissing is a simple, but important part of sex, with the only barriers being psychological. The challenge is to let go

of any inhibitions or restrictions. The lips, tongue and mouth are highly sensitive erotic organs, analogous to the vulva and penis.

Cleanliness. Of course, it is vital that your mouth, teeth and saliva are healthy – bad breath, sores or tooth decay could make kissing unbearable. Most people, but not everyone, prefer that both they and their partner are clean before making love. I suggest that you do not use strong perfumes, and perhaps use no perfumes at all. Those who smoke, drink, or eat garlic, onions or smelly foods should be considerate of their partner, and refrain if the partner does not indulge in the same.

Tips

- Drinking 200 – 500 ml of water before sex will help sustain a firmer erection in men, and good lubrication in women.⁸ As emphasised throughout *Grow Youthful*, sufficient water is essential for peak physical performance and functioning of all bodily systems.
- Masturbation has an important place for both men and women (especially if you do not have a partner!) You can try sexual techniques without the pressure of needing to perform for a partner, particularly if that partner is exciting or new. For men it is good practice to come close to the point of ejaculation, and then back off.
- Try organic coconut oil as a lubricant.

INTERNAL HEALTH

SUGAR EPIDEMIC

SWEET FOODS

Humans are naturally attracted towards sweet tastes. This worked well for our Paleolithic ancestors, because most fruits, roots, nuts, grains and leaves that are sweet are not poisonous. They actually needed the little sugar that they could find.

Modern food processing has discovered how to extract the sweetness from many foods while discarding the remainder – often the most nutritious part. Today, we suffer a vast excess of sweet foods and drinks.

The taste for sweet foods is often cultivated in childhood. Sweet things are used as a reward, a special treat, or as an emotional pick-me-up.

More than half of the calories eaten by North Americans come from refined carbohydrates and sugars.⁴¹ Breakfast cereals, sugars, jams, sweets, bread, pastries, cakes, biscuits, soft drinks, sugared drinks, sports drinks and commercial fruit juices are all examples of unnatural foods that quickly raise your blood glucose level to unhealthy highs.

These refined flours and high sugar foods and drinks are a food source that our digestive systems cannot cope with. No naturally-occurring foods have such high concentrations of fast-releasing sugars that make your blood glucose level rocket.

In the minutes after such a meal, you will feel good as your blood glucose level rises and you feel energised. Most people get this feeling after drinking a can of soft drink, eating a chocolate bar, bread, or other high GI food.

Soon after, hunger pangs, low energy, and negative moods such as irritation and anxiety can set in. In the long-term, the consequences of

these foods are disastrous – obesity, diabetes, and a host of other modern degenerative diseases.

High sugar foods cause high insulin levels in your body. High insulin levels cause addictive eating (and obesity).¹²⁵

You can break the habit by avoiding concentrated sweetness in the form of sugar, sweets, cakes and pastries, ice cream, soft drinks, commercial fruit juice, dried fruits, desserts and any food with added sugar or HFCS (high fructose corn syrup).

It can take 12 to 18 months to recover from a [sugar addiction](#). At this point you are no longer attracted to sweet snacks, and don't need something sweet at the end of a meal.

METABOLIC SYNDROME

Gerald M Reaven, an endocrinologist at Stanford University, first coined the phrase Syndrome X in the late '80s. At first, he thought it affected only a small number of people, but recent research indicates that two thirds of people over 25 suffer from it in varying degrees. Most people are not even aware that they have it. Other names for Syndrome X are pre-diabetes and metabolic syndrome.

Metabolic syndrome is the number one health problem in the Western world. It is also rapidly affecting poor countries as people abandon their traditional diets for processed and refined foods. The aggressive marketing in poor countries by industries such as soft drinks, fast food, sugar, fine milled flour, sweets and processed foods means that metabolic syndrome is now an extensive problem in virtually every city in the world.

Most people suffering the initial symptoms – aches, pains, tiredness, a tendency to overweight and a general feeling of malaise – pass this off as just a natural consequence of ageing. Indeed, *metabolic syndrome will age you – fast.*

You do not have to be showing all the symptoms of metabolic syndrome to be suffering from it. Thin people can be ill with it. It can remain hidden for years, while the sufferer looks for the cause of symptoms like chronic fatigue, a craving for sweets, fluid retention, and mental problems such as depression, anger, anxiety, mood swings or chronic low self-esteem. Often it is not diagnosed for decades, until several other serious diseases appear.

For optimal health and longevity, you need a constant low level of glucose in your blood. If your blood glucose level falls too low, you will quickly feel tired and weak. Fats should supply most of your energy, with glycogen providing for peaks in energy usage during the day.

Unfortunately, most people on a Western diet rely on carbohydrates rather than fats to provide the bulk of their calories. Your blood glucose level goes up after you have eaten a carbohydrate meal. When your blood glucose level rises, your pancreas secretes the hormone insulin into your blood. In a youthful, healthy body, the insulin swiftly reduces the blood glucose level and safely stores the excess glucose as glycogen in the liver and muscles. The glycogen is immediately available when you need the energy. In a healthy person, glucose is stored and retrieved easily. When your insulin works correctly, it keeps your blood glucose at a constant, moderate level. This gives you sustained energy throughout the day, both physically and mentally.

When your blood glucose level fluctuates wildly, or remains too high for long periods, your insulin loses its effectiveness. Your pancreas produces even more insulin in a desperate effort to lower your blood glucose. Eventually your cells have a feeble response to insulin's signals. Instead of storing the glucose as glycogen, glucose remains at a high level in your blood. Your stressed pancreas secretes more and more insulin in an attempt to reduce the dangerously high blood glucose level. In the worst cases of metabolic syndrome, insulin levels can be up to 3-4 times normal levels over many years.

Insulin. High insulin levels cause the deterioration of every one of the ageing biomarkers mentioned on page 15, along with heart and artery disease, obesity, hypertension, osteoporosis, cancer, autoimmune and

other diseases. Insulin is one of the few hormones whose level increases as your body ages.

High levels of insulin inhibit the “I feel full” hormone leptin, causing inappropriate hunger. This leads to overeating, more insulin, and a vicious cycle of obesity.¹²⁵ Insulin is also the key fat storage hormone, so a *constant high level of insulin makes it almost impossible to lose weight.*

To repeat, high levels of insulin are responsible for rapid ageing, obesity, and many modern degenerative diseases.

In contrast, the one common factor that all centenarians have is a low level of blood insulin. This is regardless of their weight, diet, exercise, family, drinking, smoking, stressors, anger, etc.

How do you get insulin to work effectively in your body, so that you never have high levels?

Your body’s production of insulin occurs almost exclusively as a response to carbohydrates, NOT the proteins or the fats that you eat. The level of fat in your diet has little effect on your insulin or glucagon levels.¹³² *If you want good health, a slow rate of ageing, and especially if you suffer from obesity, then limiting sugar and refined carbohydrates should be the focus of your diet.*^{1, 2, 132}

Protein lowers your insulin level, so it is a good idea to have a little protein with each meal. Protein stimulates the production of glucagon, which has the effect of moderating the level of insulin in your blood.

It is possible to test for your blood insulin level, but it is a tricky and expensive test. A cheap and easy test that is closely correlated to your blood insulin level is the fasting triglyceride / HDL test – usually part of a standard cholesterol test. Virtually all type 2 diabetics have a ratio greater than 4. If your ratio is above 4, you are ageing faster than necessary, and your blood insulin level is almost certainly way too high. Seek a ratio below 2, and ideally below 1.

Causes of metabolic syndrome:

- *** A high carbohydrate, sweet, refined food diet.
- Overeating. Excessively large meals result in a high level of blood glucose for extended periods.
- Frequent eating. Including a high level of carbohydrates with every meal, and especially, snacking on carbohydrates between meals.
- Prolonged stress or depression.
- Lack of ongoing exercise.
- Stimulants such as alcohol (which is chemically similar to sugar), the nicotine from smoking, artificial sweeteners, and caffeine in tea, coffee and soft drinks, cause the (unnecessary) secretion of insulin into your blood.
- Low muscle mass. Glycogen is stored in your muscles and liver. The less muscle bulk you have, the less glycogen can be stored. Instead of storing the glucose for later use, you suffer the horrible effects of high and wildly fluctuating blood glucose and insulin. The EXERCISE chapter discusses the types of exercise that will most effectively build-up your muscle mass.
- Nutritional deficiency. The modern Western diet is deficient in Omega-3s, good oils, fibre, phytonutrients, vitamins and minerals. Each of these deficiencies plays a part in promoting metabolic syndrome, especially a lack of magnesium.¹³¹

Consequences of metabolic syndrome:

- Diabetes. A high probability of developing Adult Onset, or type II diabetes. In 2007 11% of the US population had diabetes. 23% of those over 60 years old had diabetes. Adults with diabetes have 2-4 times higher levels of heart disease and strokes, according to the US National Centre for Health Statistics.
- Obesity. Most people suffering from metabolic syndrome tend to put on weight, and find it particularly difficult to shed that fat. High levels of insulin lock up that fat, inhibiting its sustained release into your blood for energy. Your lack of energy means you tend to exercise less, which only makes the situation worse.

Ongoing high levels of insulin also inhibit the production of leptin, the hormone that makes you feel full. Metabolic syndrome means you will often feel hungry when you shouldn't.

- Inflammation. Amyloid proteins are produced under metabolic syndrome conditions. They are found in the blockages in blood vessels that trigger heart attacks, and are also associated with inflammation. Heart and artery disease is an inflammatory disease.

- [Depression](#), anxiety, irritability, loss of memory, mental decline, and a low sense of self-worth. ^{345,346}

- Dementia. Your risk of dementia more than doubles, especially if you suffer from metabolic syndrome or diabetes before the age of 65. ¹⁴⁴

- Degenerative diseases including Alzheimer's, diabetes, cancer, eye problems and nervous diseases.

- Low energy. Insulin resistance hinders the uptake of glucose by the mitochondria (power converters) in all the cells in your body. You feel tired, weak, and have low vitality and energy most of the time. It is one of several possible causes of chronic fatigue.

- Rapid ageing. High levels of insulin will age you rapidly, as will all the other consequences of metabolic syndrome. High blood glucose levels act as a powerful oxidant, damaging cells and causing inflammation and toxic by-products called advanced glycosylated end products (AGEs).

- Hormonal imbalance. Excess insulin and fluctuations in glucose (and other hormones) cause swings in your moods and energy level.

- High blood pressure.

- Raised blood fats. Your body gets rid of some of the excess glucose in your blood by storing it as fat. Your triglyceride and total cholesterol levels rise. HDL cholesterol falls and LDL cholesterol rises. Oxidised LDL cholesterol is deposited as plaque around veins and arteries (atherosclerosis). The risk of heart disease increases.

Healing metabolic syndrome

The diet recommended in *Grow Youthful* is perfect for healing metabolic syndrome.

The most important thing to do is eat a low carbohydrate diet. Most of your calories should come from fats. The transition may take a couple of weeks, and you may crave sugars and sweet foods during that time. If you can eliminate sugar and all foods made with sugar, and drastically cut down on foods made with flour and refined foods, then half the battle is won. After a few weeks, you will feel so much better, the cravings will go, and it will be easy to continue.

Re-building your muscles and detoxifying your body is a necessary part of the healing process. Exercise sustained for at least 30 minutes, and where you breathe deeply and do not get out of breath, is the antidote to metabolic syndrome. It burns fat, helps maintain your blood glucose at a constant level, and improves your insulin sensitivity.

Relaxation (page 357) is the third essential.

Tests for metabolic syndrome

The conventional tests for diabetes do not show if you have metabolic syndrome. However, if you measure the insulin level in your blood at the same time as the glucose level, this can diagnose metabolic syndrome. If your insulin is high, and blood glucose is moderately high two hours after consuming a measured dose of glucose, this shows insulin resistance.

Another test for metabolic syndrome measures glycosylated haemoglobin – the extent to which your red blood cells have become sugar coated. This occurs when your blood glucose level is too high over a long period. Both these tests are available through your doctor.

GLYCEMIC INDEX

The Glycemic Index (GI) is a guide that shows which foods spike your blood glucose level. It measures how different carbohydrate foods affect your blood glucose level for up to 2 – 3 hours after eating them. The faster your blood glucose level rises after eating the food, the higher the GI.

A GI is calculated for a particular food by feeding a portion that provides exactly 50 grams of carbohydrates to each of a panel of volunteers. The portions of baked potatoes and dates (which have some of the highest GI values) are small, whereas the volunteers testing watermelon (one of the lowest values) almost had to eat a bucketful. During the next three hours, the blood glucose levels of the volunteers are measured every 15 or 30 minutes, and an average is calculated. This is compared to a reference food, usually pure glucose or fine milled white bread.

Glucose has a value of 100. All other foods (except maltose, with a value of 105) have values less than 100. Foods rated below 55 have a low GI, and foods above 70 are classified as high GI. Low GI foods provide energy in a slow, sustained released form. Glucose is stored and released over a longer period, and you are less likely to feel hungry during this time. High GI foods provide a quick burst of energy, but you may be hungry sooner after eating them.

A high blood glucose level raises your insulin level and exposes your body to various toxic effects. A high carbohydrate diet, especially of high GI carbohydrates, will cause illness and ageing.

What causes a food to have a low or a high GI?

- Fat. Fatty foods have a lower GI, because fat slows the rate at which you digest starch. This is one of the reasons why *Grow Youthful* recommends that you get two thirds of your calories from fats. A high fat diet provides a low and steady level of blood glucose and insulin.

Put lots of butter on your baked potato and you lower the GI.

- Structure. Foods that are light and fluffy and made from finely milled flour have a higher GI than those that are dense, compacted and coarse. If a food is swollen or expanded from heat or water, such as baked potato, it has a greater surface area for your digestive juices to work on, and the delicate structure of the food reacts quickly. Refined foods, and light puffed up rice cakes and diet crisp breads have very high GIs. Light, fluffy baked potatoes have a GI of 95! By contrast, a low GI food has large, dense, heavy particles, which take longer to digest. Traditional heavy whole-grain breads and *al dente* pasta are

healthier forms of carbohydrate. Choose the largest, densest, most natural form of food – long grain, basmati and brown rice has a GI of 52-58 compared to short grain, fast cooking, Japanese style white rice at 72-75.

- Sugar (type and amount). Fructose, the natural sugar in most fruits and honey, has a surprisingly low GI of 20. (But remember that fructose is toxic in excess, and is responsible for the obesity epidemic and many other diseases.) The lactose in milk has a low value of 46. The GI of white table sugar is 65, in the mid to high range. Honey is 58, and maltose, produced by some sprouting grains, is 105. The ripeness of a fruit, or the degree to which a food is souring has a significant effect on its sugar level. For example, an under-ripe banana can have a GI of 30, and the same banana when over-ripe a GI of 52. Sweet ripe bananas can be as high as 75.
- Fibre. High levels slow down your digestion and lower the GI. Vegetables, nuts, fruits and unrefined grains contain fibre.
- Acid lowers the GI of a food. Add a little vinegar, pickle, sauerkraut, dry wine or lemon juice to a plate of food.²⁵⁸

Be aware that low GI foods are not necessarily healthy foods. Foods may have a low GI because they are high in fructose. Fructose is a sugar you should try to minimise or avoid (page 64).

GLYCEMIC INDEX OF SELECTED FOODS

SUGAR		Mashed potato	73
Maltose	105	Crisps	56
Glucose	100		
Sucrose (white table sugar)	65	DAIRY	
Fructose (fruit sugar)	20	Ice cream - regular fat	62
		Ice cream - low-fat	50
RICE		Soymilk	44
Glutinous rice	92	Milk chocolate	42
White, instant	90	Custard	40
White, short grain	72	Yogurt – plain	36
Brown, short grain	66	Yogurt - flavoured, fruit	32
White, long grain	56	Milk skimmed	32
Brown, long grain	42	Milk full fat, cows	31
POTATO		DRINKS	
White Desiree, boiled	101	Sports drink Lucozade	95
Baked	90	Sports drink Gatorade	79
Instant	85	Orange soft drink (Fanta)	68
French fries	75	Orange cordial	66

Coca Cola	53	Bagels	72
Orange juice, reconstituted	53	Whole wheat	69
Carrot juice (fresh juiced, raw)	43	Rye	63
Apple juice reconstituted	40	Pitta	57
		Whole-grain	40

BARS & SWEETS

Fruit bar	90
Jelly beans	78
Breakfast bar Fibre Plus	78
Mars Bar	62
Muesli bar with dried fruit	61
Chocolate, white	44

SPREADS

Honey	58
Jam, strawberry	51
Marmalade, orange	48
Peanut butter	18
Hommos	7

BREAD

White	75
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SNACKS & CAKES

Pancake, packet mix	102
Corn thins puffed corn cakes	87
Pretzels	83
Rice cakes puffed	82
Muffin, English	77
Pop tart chocolate	70
Crackers, wheat	67
Cake, Angel	67
Popcorn	65
Muffin, apricot coconut honey	60
Pastry	59
Cake, banana	50
Cake sponge plain	46
Pudding instant packet & milk	46
Muffin, apple	44

Corn chips	42	Muesli - Swiss	56
Tomato soup	38	Muesli – toasted	43
		Porridge oat cooked	43
PASTA, GRAIN, NOODLE		Muesli – gluten-free	40
Buckwheat	54	All Bran with fruit & oats	39
Spaghetti	50	All Bran	30
Oatmeal	49		
Noodles, instant	46	DRIED FRUIT	
Pasta, boiled	45	Dates	103
Fettuccine, egg, cooked	32	Raisins	64
Noodles, Mung bean		Figs	61
(Lungkow)	26	Sultanas	56
		Apricot	30
BREAKFAST CEREAL		Apple	29
Rice crispies	85		
Cornflakes	80	VEGETABLES	
Puffed wheat	80	Parsnips boiled	97
Coco Pops	77	Carrots- baked till caramelised	92
Bran Flakes	74	Pumpkin	75
Crunchy nut cornflakes	72	Carrots – boiled	70
Shredded wheat	67	Beetroot – canned	64

Sweet corn – boiled	56	Canned Kidney beans	52
Green peas	51	Canned Baked beans	48
Peas, green frozen boiled	48	Canned Lentils	44
Sweet potato	46	Canned Chickpeas	42
Carrots – raw	25	Boiled Black eyed beans	42
Tomatoes	28	Boiled Butter beans	31
		Boiled Chickpeas	30
FRUIT		Boiled Black beans	30
Banana - ripe	62	Boiled Kidney beans	29
Kiwi fruit	58	Boiled Lentils	28
Apricot – whole	57	Boiled Pearl barley	25
Peach canned in syrup	55	Boiled dried peas	22
Banana - just ripe	52	Boiled soybeans	15
Grapes green	46	Dahl Chickpea	11
Orange – whole	41		
Apple - whole	37	NUTS	
Strawberries	35	Cashew, roasted	22
Peach	29	Peanuts, roasted	13
Grapefruit	25		
Cherries	23		

LEGUMES

TOXIN & WASTE REMOVAL

THere are steps you can take to protect yourself from the accumulation of toxins and wastes. They boil down to minimising the load of pollutants entering your body, and maximising their elimination. Sufficient exercise, drinking warm water, deep breathing, chelation and deep sleep enable the ongoing removal of toxins. Living food and fasting promote self-repair.

The major organs that remove toxins from your body are your liver, colon, lungs, kidneys and skin. Cellular waste and waste from body functions is disposed of mainly through your faeces, urine, breath and sweat. Skin flaking, hair, nails, earwax, tears, eye mucus, morning mouth and phlegm are other ways that your body gets rid of toxins.

If any of the cleansing functions of your organs are impaired, you will suffer a build-up of toxins. A lack of movement and exercise resulting from sedentary lifestyle is a major cause of poor elimination, causing wastes to accumulate in body fat, joints, lymph nodes, colonic sacculations and other areas seemingly isolated from the bloodstream.

Fat-soluble toxins that you do not eliminate will be stored in your fat, particularly around the belly, hips, breasts and heart. This fat is especially difficult to get rid of, because it is associated with high levels of insulin, the fat-storing hormone. If you burn it off too quickly, you will feel terrible from the toxins released into your blood. It is best to lose toxic fat over a period of many months or longer.

The stimulation of your lymphatic system is important, using exercise, heat, massage and brushing. Your lymph system connects to most major organs, and moves fluids away from tissues and back into the blood. It does not have a pump like the heart to move these fluids, but instead relies on the movement of your muscles and pressure changes from your breathing to stimulate the flow of lymph fluid. This is why aerobic exercise is an essential part of detoxification (and good health). Heat

dilates (expands) your blood capillaries and lymph vessels, making it easier for these wastes to move through capillaries.

It is important that you drink sufficient water while exercising and detoxifying, to assist your kidneys to remove the toxins from your blood as quickly as possible.

Bear in mind that these wastes have taken years to accumulate, and while their removal can be quicker, it is still a long-term task.

Chelation. Chelates are compounds that bind with specific metals or other toxins in your body. After binding, they are safely excreted. Sodium alginate, found in various seaweeds, is the most effective chelator for pulling radioactive materials out of your body.⁸⁵ Other foods with chelating agents that protect against heavy metals and environmental contaminants such as DDT, aluminium, nitrates and nitrites include iodine, bee pollen, miso, pectin (in apples and sunflower seeds), kombucha, raw coriander leaves, the phytates in dry grains and seeds, yeast, garlic and blue-green algae.

MINERALS

ACID / ALKALINE BALANCE

After digestion, the food you eat leaves a mineral residue. Some kinds of foods leave an alkaline residue, some acidic.

If a food like a lemon tastes acid and has an acidic pH of 3.5, you might ask how lemon can be alkaline-forming? The answer is that its acidic taste comes from organic acids in the raw fruit that are burnt away when you digest and metabolise it. The residual minerals such as potassium and magnesium that remain are alkaline.

These elements are acid-forming: bromine, chlorine, fluorine, iodine, copper, phosphorus, silicon and sulphur. They react with alkaline mineral reserves in your body, and make your urine more acid. Foods and other

substances that contain a high proportion of these minerals are acid-forming.

The major alkaline-forming minerals are calcium, magnesium, sodium, potassium, iron, zinc, nickel and manganese. Foods, drinks and water that contain a high portion of these minerals are alkaline-forming, and they make your urine more alkaline.

Unfortunately, our digestive systems do not burn food as completely as a fire would. Poorly digested waste products tend to be acidic. The less healthy and efficient your digestive system, the more acid are the wastes. Your body elimination systems are concerned with getting them out – hence sweat and urine are usually acidic.

Acid by-products from your metabolism include acetic acid, lactic acid, uric acid and carbonic acid. Powerful hydrochloric, sulphuric and phosphoric acids are made from the chlorine, sulphur and phosphorus in our food. Hydrochloric acid is the centre of the digestive process. After food has been through your acidic stomach, these powerful acids must be neutralised, and sufficient alkaline salts are required to do this. Good health and digestion are dependent upon having strong acids in your stomach, and then sufficient alkaline salts, particularly carbonates of calcium, potassium, magnesium and sodium.

ALKALINE RESERVES

Each of us has reserves of alkaline minerals in our bodies, primarily sodium and calcium. When we eat more of these minerals than are needed at the time, they are stored mainly as sodium and calcium bicarbonate, and are available when required. Most of these reserves exist as a buffer that is stored in your blood plasma.

pH (potential hydrogen) is a measure of acidity or alkalinity, with 1.0 the most acidic, 7.0 neutral and 14.0 the most alkaline. Your body tissues, and in particular your blood, require a precise pH level for good health.

Your body regulates its acid-base balance quite easily provided it has sufficient stores of electrolyte minerals. In a healthy body this dietary

balance affects the acidity of urine but not much else. Your urine and saliva should have an average pH of 6.4. Their pH can vary by the minute, depending on what you have just eaten and whether your alkaline reserves are being drawn upon.

Your blood should have a mildly alkaline pH of 7.365. If it varies even slightly from this normal pH level, it draws on your reserves to correct it. A fast response is required, because the wrong blood pH will rapidly result in illness or death. Initially, your sodium bicarbonate reserves are used. If they run out, then the calcium bicarbonate and other alkaline mineral reserves are next in line.

Calcium is essential for healthy bones, nerves, muscles, cardiovascular and kidney functions. Your body contains nearly a kilogram of calcium, of which about 99% is in your bones.

There are two forms of calcium in food and drink – organic and non-organic. Organic calcium is easily assimilated into our bones, whereas non-organic calcium is difficult for the body to use. Instead, your body tries to excrete non-organic calcium salts. If it does not manage to excrete them, they tend to form liver, kidney and gallbladder stones and deposit wherever they can (arthritis).

Organic calcium is found in fresh vegetables, fruits, egg yolks, grains, sprouts, nuts, raw milk and many unprocessed foods. The hard to assimilate, non-organic form of calcium is in refined, cooked and processed foods such as bread, pasteurised milk products, calcium tablets and other supplements.

Calcium is one of the major elements used in maintaining your blood's pH, and consequently the acid / alkaline balance of your entire body. Calcium works in concert with the other acid neutralisers, sodium, potassium, iron, manganese and magnesium. Your body monitors your blood's pH and calcium levels, and if either of them falls, it quickly draws on the reserves of calcium bicarbonate in your blood plasma. If your plasma reserves are insufficient, calcium is taken from your bones.

Under long-term acid conditions, your bone density will decrease and you will suffer from osteoporosis. When you have no reserves left and calcium

has to be taken from your bone structure, your spine and pelvic bones are usually the first to suffer. As much as 10 – 40% of the calcium may be leached from mature bones before the loss can be seen on an X-ray.

Calcium intakes vary widely around the world, from a low of around 300 mg / day in India, to 400 in Hong Kong, 1000 in the USA and Australia, and 1400 in some Scandinavian countries. Interestingly, hip fractures are higher, not lower, in those countries where people consume the most calcium^{65,407} or take calcium supplements.³²⁰ A meta-analysis of many research studies shows that calcium supplements may cause heart disease, strokes, brain lesions, kidney stones and biofilms.^{349,350}

These statistics show that a high-calcium diet does not prevent osteoporosis and bone loss or weakening. Advertisements encouraging us to drink milk and eat dairy products are sponsored by the dairy industry, and are deceptive. The degenerative diseases caused by dairy products are described on page 150. Milk today is pasteurised and homogenised, and although a cup of milk contains nearly 300 mg of calcium, it is difficult to digest. Drinking milk may actually increase your likelihood of a hip fracture.^{320,407}

The simple dietary solution to osteoporosis is to avoid non-organic calcium, and only consume organic forms of calcium. *The best source of organic calcium is a rich bone stock, made by simmering the bones, feet and joints (the whole carcass) of animals, birds or fish.* Other sources of organic calcium are leafy green vegetables, onions, seaweeds, nuts, sesame seeds, sardines (with bones) and egg yolks. The calcium in all these foods is easily digested.

Wheat and other grains cause hypocalcemia (calcium deficiency) and the recommended treatment is a wheat-free or grain-free diet.

Potassium is needed by your muscles, heart, glandular and nervous systems. Potassium assists in maintaining the pH balance in your blood, in concert with sodium. The sodium / potassium ratio is a long-term determinant of heart, bone, muscle and kidney health.^{317,318,319} A diet with lots of animal products and processed foods is high in sodium,

whereas a diet high in vegetables and fruits is high in potassium. Simply eat more vegetables (and some fruits) to improve the ratio.

The best sources of potassium are vegetables (sweet potato, potato, taro, beet, carrot, spinach, seaweed), fruits (particularly banana and avocado), molasses and tree nuts. Whole grains contain potassium but as explained throughout this book, should be avoided. White rice is low in potassium. Sugar, refined salt, coffee and alcohol all leach potassium from your body.

Sodium occurs in your body mainly as salt – sodium chloride. Your blood sodium level is maintained in a narrow range, and deviations from it can have a catastrophic effect. Salt is lost through sweat and urine, and is replaced from your diet. Most people consume too much salt – the only people who need to replenish it are those who sweat a lot, exercising in hot environments.

Refined table salt is a poor source of sodium. If you buy salt ensure that it is un-refined sea salt, not processed and denatured supermarket salt (page 161). The best sources of sodium include celery, okra and goat's milk. Salty meats such as bacon, ham and corned beef are usually poor foods, high in refined sodium chloride. White meats such as chicken, duck, lamb and pork contain more potassium than sodium.

Magnesium is a key mineral for health and longevity. Most people today are severely deficient, getting less than half of what their ancestors did a century ago.¹³¹ In a Palaeolithic diet the calcium to magnesium ratio used to be about 1 to 1. On the Standard American diet, it is more like 15 to 1.

About half of the magnesium in your body is in your bones and the other half is inside the cells of tissues and organs. Only 1% is in the blood, and the kidneys work to keep this level constant.

Even a mild deficiency in magnesium is a risk factor for osteoporosis.¹³¹ Magnesium deficiency is involved with many other degenerative diseases, including anxiety, asthma, blood clots, bone spurs, constipation, cystitis, depression, diabetes, chronic fatigue, heart disease, hypertension, insomnia, kidney disease, migraines, muscular skeletal problems (fibrositis, fibromyalgia cramps, pains), nervous problems and muscle

twitches, menstrual problems, obstetrical problems, panic attacks and tooth decay.

Magnesium is essential for your energy, cell growth, nerves, muscles and heart and arterial system. It helps you to relax physically and mentally.

Magnesium dissolves excess calcium in the body. It is antagonistic toward aluminium, cadmium, lead, mercury and nickel, so is essential for good health if you live in a polluted environment.

Magnesium is a difficult mineral to supplement orally. If you take magnesium sulphate (Epsom salts) it will give you diarrhoea, as will most other magnesium salts. I advise you to avoid most pills and supplements. So how do you get sufficient magnesium, when most of our soil, our food and our bodies are so deficient?

The answer is through your skin. If you live near clean ocean water, a daily swim can provide a range of minerals to your skin, which your body does use to take up nutrients (contrary to many old-fashioned doctors who say your skin is an impervious barrier).

I swim in the ocean several times each week. However, this is not enough to give me sufficient magnesium. One reason is that West Australia, where I live, is an ancient sand belt deficient in most minerals. The crops grown here contain virtually no magnesium, manganese, zinc, selenium and other essential minerals.

Magnesium oil is the best way to supplement magnesium. It contains a high concentration of magnesium chloride, plus other minerals. It is not really an oil, but when you put it on your skin it looks and feels a bit oily. [Magnesium oil](#) is the best way that I have discovered to get sufficient magnesium into your body.

When I first started using it, it felt a little itchy and even had a slight sting for up to half an hour after applying it. After a couple of weeks of daily use, that “been to the beach” feeling disappeared. I started by applying it only to my arms and legs, but now also use it on my face and scalp. It seems that the worse your magnesium deficiency, the more

uncomfortable it is when you first start using it. Some people even get an uncomfortable rash. When you first start to use it, apply it only to the exposed parts of your arms and legs. If your skin reacts badly, it is a sign of how deficient you are.

In my case, the effect of using magnesium oil has been pleasing. My skin looks clearer and younger. Although I was healthy when I first started taking the magnesium, I feel my immune system and energy level have been boosted.

The quality of magnesium oil varies between different brands. Try to buy the purest that you can, and one that contains a range of minerals in addition to the magnesium. Some are sourced from pristine ocean water, others are made from minerals obtained from glacial valleys, peat bogs and moors, and natural salt pans. The Dead Sea contains a high level of magnesium; for thousands of years people have swam in it and used the salts on their skins.

The best food sources of magnesium are seaweeds, black unsweetened chocolate, tree nuts, green beans, greens and other vegetables. Coffee and tea also contain significant amounts.

Zinc is another essential mineral in which most people are deficient. Severe deficiency in childhood causes dwarfism and delayed maturity. In adults zinc deficiency may cause skin rashes, hair loss, diarrhoea, a weak immune system, slow healing of wounds, night blindness, and cognitive and behavioural disorders such as depression. [More on zinc here.](#)

STOMACH ACIDITY

One of the keys to health and longevity is an effective digestive system. If you can extract all the nourishment you need from the food you eat, your body will self-repair and function at its peak. Young people have highly acidic stomachs, and tend to have good digestion compared to older people. One of the symptoms of ageing is that your stomach becomes less acid.

An acid stomach ensures: ¹⁴⁸⁻¹⁵⁵

- Efficient digestion of food. Complete digestion of proteins. Good absorption of micronutrients.
- Efficient emptying of the stomach - the pyloric sphincter is pH sensitive and unless there is sufficient acidity the stomach fails to empty properly.
- Correct operation of the lower oesophageal sphincter (LES). Sufficient acidity keeps it tightly closed! (no reflux).
- Sterilisation of gut contents.

Your stomach needs to be very acid. Insufficient stomach acidity leads to poor digestion, and is the root cause of many diseases.

Insufficient stomach acid can result in:

- Acid reflux, and symptoms of pain, blockage and heartburn, also described as gastro-oesophageal reflux disease (GERD or GORD). This is because the LES will not shut properly, or opens too easily.
- Poor or partial digestion of foods.
- Diarrhoea, irritable bowel syndrome, leaky gut, eczema, hives.
- A tendency to allergies. Poorly digested proteins tend to switch on allergies.
- Malabsorption, causing micronutrient deficiencies.
- The pyloric sphincter will not open properly to allow the stomach contents into the duodenum. The food sits in your stomach for too long and digests slowly.
- Gas, burping and heartburn immediately after a meal. Bacterial and yeast overgrowth means that food is fermented instead of being digested, resulting in wind, gas and bloating.
- A tendency to get gut-sourced infections and parasites since acid is required to sterilise the contents of the stomach.

Hydrochloric acid (HCl) breaks down the food you eat into amino acids and other components. Strong HCl breaks down your food easily, cleans up waste by-products, and kills and digests harmful bacteria, parasites and fungi. Many amino acids, vitamins and minerals depend on strong HCl for absorption, and if your stomach is not acid enough, you will be deficient in these micronutrients.

Heartburn and reflux are caused by too little acid in your stomach, not too much! If your stomach is not acid enough, food sits in your stomach for too long, and eventually the fermenting gases push some of it up, burning your throat.

Do not use antacid tablets. They contain aluminium and indigestible calcium, are toxic and harmful, and have no benefits whatever. Anti-acids, antacids and drugs that inhibit the production of acids give short-term relief to the symptoms. However, they do nothing to heal the problem, and in the long term make it much worse.

Notice that the referrals 148 – 155 in the bibliography are all four or five decades old. I had difficulty finding research that is more recent. This is because there has been little funding available when it would show that the drug companies and standard treatments have been to sell antacids and acid-inhibiting drugs - exactly the opposite to what is needed to heal these diseases.

The treatment is to increase stomach acidity

For most people the cure is easy. The traditional and most effective remedy is unpasteurised apple cider vinegar (ACV). Take between one and four teaspoons of ACV in a glass of water before a meal. A lesser quantity of acidic water after a meal helps to wash out any food particles that may be stopping the LES from closing properly. The acidity also helps it to close correctly, and helps with digestion.

If you take an acid such as ACV between meals or before going to bed, rinse your mouth to avoid damaging your tooth enamel.

There are several less acidic alternatives to ACV. Whey made from raw milk (preferably using kefir), sour lemon juice, strongly acidic kombucha,

strong rejuvelac and Swedish bitters are also effective. The fermented drinks also contain natural probiotic microorganisms, so important for healing digestive problems.

The whey above is the sour, acidic, clear liquid that remains after you make curds or cheese from milk (NOT whey powder). You can make the best whey yourself using kefir (page 338).

If your symptoms have not cleared up after a couple of months, a stronger cure is to take hydrochloric acid (HCl) or betaine hydrochloride capsules (except if you have a peptic ulcer or are taking any kind of anti-inflammatory medication). Take a capsule or tablet at the start of a meal. If there is no burning or warming in your stomach, take another a couple of minutes into the meal. Over a few days, experiment to see how many capsules it takes to achieve the warming, and then drop back to below that level. As your stomach rights itself over weeks or longer, you will need fewer capsules.

FASTING

Have you noticed how animals and children stop eating when they are ill? Fasting is an effective cure for many diseases. The ancient Greeks fasted for health and long lives, and were renowned for their robust bodies. Fasting is frequently mentioned in the bible, and Jesus often fasted, sometimes for up to forty days. Taoist and Hindu masters require their students to fast for long periods to purify their minds and bodies, particularly before introducing them to advanced precepts.

Our paleolithic ancestors would have had periods when food was scarce. Evolutionary selection would have favoured those who were able to continue with their lives, resisting infections and other diseases and having sufficient strength in reserve to hunt, gather or fight as required.

Fasting is an effective method of cleansing and rejuvenating your body, including your blood, organs, and all bodily tissues. In this age of

pervasive pollution, it is a key to warding off premature ageing and degeneration of your body due to toxicity.

Fasting need not mean total abstention from all food. As you will see from the different types of fasting outlined below, some fasts just require the removal of certain food groups. *No fast should involve severe discomfort or hunger.*

Fasts should always include sufficient quantities of (mineral-rich) water.

Fasting *increases* your energy level in the short-term (like missing one or a few meals) because digestion requires a lot of energy. Within twenty-four hours of reducing your food intake, your body starts to break down waste matter such as dead and damaged cells, metabolic wastes, salts accumulated in joints, various cysts and lumps, cancerous cells, pollutants, and harmful microbes. Your organs and glands get a much-needed rest, during which the enzyme power that would have been used for digestion is instead available for repair, detoxification and healing.

Fasting stimulates hormesis. This is when small stresses to the body or small quantities of a poison result in beneficial changes. Calorie restriction, exercise, mental stresses that have an end, and consuming the toxins from some plants that are in season, but not for the rest of the year, are examples of hormetic measures. Hormesis boosts the expression of protective proteins, neurotropic factors and other protective cellular factors that in turn work to delay the aging process.

Fasting stimulates the production of human growth hormone,²⁸⁵ which can reverse your ageing – see below.

Fasting is one of the most effective immune-system boosters. When properly conducted, fasting can cure virtually all diseases including cancer. Other benefits of fasting include cleansing the lymph fluids, repairing tissues and healing internal and external injuries.

Fasting has a cleansing effect on your mind, increasing your awareness and concentration. Throughout the centuries, fasting has been associated with the development of spiritual awareness.

Avoid fasting in the winter, and be gentle on yourself. If the fasting feels uncomfortable or stressful, then stop.

Short fasts

You must consume fluids and electrolytes during a fast. With sufficient mineralised water and other electrolytes, a fast is safe, easy to tolerate, and has the greatest health benefits.

A little sea salt provides sodium, chlorine and a variety of trace minerals. Potassium, calcium and magnesium are needed to maintain electrolyte balance, and can be obtained from non-sweet vegetables, seaweeds and stocks made from bones, feet and other parts of the animal carcass.

Foods and drinks with acid content are also important. They help heal the digestive tract, assist with metabolism, and most importantly, dissolve some of the unwanted mineral accumulations in the body. These accumulations include liver, kidney and gallbladder stones, arthritic accumulations, and bacterial biofilms.

You can do a cleansing detox fast for a few days, while consuming foods and drinks that provide these electrolytes. Make up bone stocks in advance, there are plenty of suitable stock recipes in the [Grow Youthful Recipe Book](#). To make a soup, use non-sweet vegetables such as celery, leafy greens, scallions and herbs such as coriander/cilantro or basil. Another possibility is a tomato soup, or a soup made with peppers, onions and kohlrabi. Very small quantities of sweet vegetables such as carrots or beetroot can be included, but avoid starchy vegetables such as potato, sweet potato, sago, taro, cassava and tapioca. You can use a little miso or fish sauce for additional flavouring.

Any feelings of stress and hunger during a fast are mostly due to the absence of carbohydrates and protein. The inclusion of a small amount of protein will reduce feeling of hunger if this is a problem.

Most people do not want or need to lose muscle bulk. On a longer fast, the body will eventually consume muscle as it looks for protein. At first, it will source some protein as the process of autophagy starts, and old,

deficient, damaged cells and debris around the body are cleaned up. But at some point on a longer fast you will start to lose muscle mass.

Regular daily fast

Most people have a mini-fast between their dinner each night, and breakfast the next morning. When this daily fast is interrupted by a late dinner or eating during the night, the essential detoxification process of sleep is also disrupted. In addition, the nightly process of autophagy or intracellular clean-up is sabotaged.

What if you could extend this daily overnight fast? Many of the benefits of fasting tend to start when glycogen stored in the liver and muscles runs out. There is enough glycogen stored to last about 12 to 16 hours. This means that if you only eat within an 8 to 12 hour window every day, you will enjoy the enormous benefits of regular fasting.²⁰⁷ You will enjoy the greatest benefits if you can confine eating to an 8 hour window, to ensure that autophagy is significant.

Long periods of fasting do not increase autophagy, and are not as beneficial for cellular clean-up. Autophagy peaks after 24 hours of fasting, and during the following 24 hours goes back to normal levels.²⁸⁷ Ketosis or a reduced amount of protein in the diet promote autophagy.

Several studies have shown that after long periods of fasting or the end of a famine, the resumption of feeding is a dangerous period in which autophagy stops and intracellular infections flare up.²⁸⁸

I recommend that you try to eat within an eight-hour feeding window every day. Of course, you may not always manage to do this, having a social life or eating with other people. However, if you can still eat in a 10 or even 12-hour feeding window on those days, it is a major step toward healing many diseases, overcoming infections and slowing your rate of ageing. After you get your diet back in balance, get over sugar addiction, and feel good with this daily routine, there is no feeling of hunger or stress with this kind of fasting. It just feels energising and healthy.

Carbohydrate concentration (CC)

Carbohydrate concentration is not a diet, but just a highly beneficial eating strategy. It has one simple rule: eat virtually all your carbohydrates in just one meal each day. You can eat fats, proteins and low-sugar low-starch vegetables in the other meals each day.

By following this carbohydrate concentration strategy, you will experience low insulin levels for 20 hours each day. This is an extraordinary achievement, considering how little effort it takes. You will not have to give up any of the (healthy) foods that you enjoy, as you can still eat carbohydrates once every day. For most people this is easier than a ketogenic fast (discussed below). Yet on a CC diet you will still be able to experience many of the benefits of full-blown calorie restriction by having low insulin levels over 80% of the time.³⁴³

You will find that the CC diet does not require as much discipline as you might fear. The low and steady insulin level that you will have most of the time will moderate your appetite by controlling leptin and by using stored fat as your energy source. Your daily carbohydrate meal will tend to satiate your desire for carbs so you will not feel deprived. The CC diet is highly flexible – you can actually eat a wide range of foods and you do not have to avoid any good food – the only rule is that you concentrate your carbohydrate foods and eat them at one meal each day. It does not even have to be the same meal each day. It could be at breakfast one day and lunch the next depending on your social, business or personal needs.

Another advantage of the CC diet is that you will not sabotage it or ruin it if you have occasional lapses. With a strict fast, a calorie restriction diet, or ketogenic diet, if you lapse and eat some carbohydrates, ketosis ends and hunger returns. In contrast, the point of the CC diet is that you can eat some carbohydrates every day.

Details on the CC diet are available at the [Catalytic Longevity website](#).

Ketogenic fasts

A ketogenic fast is one in which your body's fuel source is fats, rather than carbohydrates or proteins.

Fats provided most of the calories for humans as we evolved. Fats were the main source of energy for early pre-humans, paleolithic people, Neanderthals, and hunter-gatherers.^{207,208,209} It is only since the recent advent of agriculture and the widespread consumption of grains, that carbohydrates have become the primary energy source for most humans.

With a modern carbohydrate-rich diet, glucose is produced in large quantities and is used as the fuel for muscles, the brain, and all other cells in the body. In this glucose-rich situation, the liver does not produce ketones. Instead, it does all it can to get rid of this toxic excess of glucose, by using it as a fuel, and by storing it.

However, if glucose (carbohydrate) is limited, your body converts fat into ketones that your body and importantly, your brain use for fuel.

If you restrict carbohydrate consumption to 30 grams per day or less, after a day or two your blood, liver and muscles will be depleted of glucose and glycogen. At that point, your liver will start producing ketones, because your body gives a high priority to keeping your brain fuelled. *Ketones are the preferred, normal and healthy fuel for every organ, and for your muscles and metabolism.*

Autophagy is when damaged, dysfunctional or excessive cells self-destruct. It is a highly beneficial and rejuvenating process. About 12-16 hours into a ketogenic fast, autophagy starts.²³⁰ Autophagy is also a process that occurs every night as part of your diurnal rhythm.²⁸⁶

On a **strict Ketogenic fast**, you eat only fats – no carbohydrates or proteins. You are restricted to coconut or palm oil, thick cream, butter, animal fats such as lard, tallow and ghee, high-fibre vegetables, and fermented vegetables. Olive oil (monounsaturated) is also allowed.

The health benefits of a strict Ketogenic fast are substantial – somewhat similar to calorie restriction. Your body burns fat as its primary fuel source 24 hours a day, 7 days a week. This tends to make it an effective diet for weight loss, which no carb-based diet can match. People in ketosis often eat much less than when they are on carbs because their feelings of hunger are reduced, as their bodies have low and steady levels of both leptin and insulin.

It is also an excellent diet to recover from the numerous modern degenerative diseases that are caused by elevated blood glucose and insulin.

Several problems occur if you stay on a strict Ketogenic diet for too long. In the long term it does not provide all the nutrition a healthy person needs. It usually does not provide enough protein. Also, some body systems need a limited amount of blood glucose to function properly – such as parts of the immune system. A minimal level of insulin is also required, and a strict ketogenic diet will eventually result in a severe vitamin C and selenium deficiency caused by low insulin. For this reason strict ketogenic diets are used for a limited period to recover from a serious disease.

On a **non-strict Ketogenic diet**, protein and minimal carbohydrate foods are also allowed. You can include meats, poultry, fish, seafood, tea, coffee, salt, and many spices and herbs. Minimal carbohydrate foods include most (non-sweet) vegetables, cheeses and tree nuts. You need to avoid foods that contain carbohydrates easily converted to glucose, such as sweet fruits, dried fruits, fruit juices; all grains, flours, sugars and foods made from them such as bread, pasta, cereals, cakes, crisps, biscuits/cookies and bars, alcoholic drinks, milk and other dairy products, and most processed foods and drinks.

Non-strict ketogenic diets conserve lean muscle mass because you consume adequate protein. The importance of maintaining muscle mass is emphasised throughout this book.

This helps explain why I emphasise the health and longevity benefits of a low carbohydrate, low calorie, high-nutrient diet that is rich in healthy (saturated) oils. If you follow the dietary recommendations in *Grow Youthful*, you will actually be on a near, or non-strict ketogenic diet. You won't feel hungry between meals, you will have consistent good energy levels all day, your body will easily lose or gain weight to a slim, muscular and healthy profile, and you will be protected from and heal numerous serious diseases.

I don't recommend keeping up a strict ketogenic fast for long periods (months) unless using it to cure the above diseases, because we need sufficient protein to maintain muscle mass, and a small amount of glucose in the blood for good health. A ketogenic diet can also cause deficiencies in those micronutrients that come with carbohydrate foods such as fruits and nuts. A ketogenic fast is not suitable for a woman who is pregnant.

Ketoacidosis (not to be confused with ketosis) is a rare situation where the body fails to properly regulate ketone production, leading to a toxic accumulation of keto acids. It can occur in those suffering from type 1 diabetes or long-term alcoholics. Ketoacidosis can be smelled on a person's breath because acetone is produced as a by-product - smelling like fruit or nail polish remover. Those who are pregnant or have kidney disease should only follow a ketogenic diet under expert supervision.

Benefits of fasting

Fasting, leading to low blood insulin, autophagy and ketosis all protect against or heal most modern degenerative diseases.³⁴³

- Longevity. The one thing that all long-lived people have in common is a consistent low level of insulin in their blood. To do that, you need to live on a near-ketogenic diet, a calorie-restricted diet, or most easily, a long window each day without carbohydrates.
- Weight loss / normalisation.⁴⁰⁰
- Numerous brain and mental diseases. Ketogenic diets have traditionally been used to treat epilepsy. However, the benefits of ketogenic diets and other forms of fasting for virtually every type of neurological disorder are now becoming apparent. They can prevent and / or treat ALS (Lou Gehrig's disease), Alzheimer's disease, autism in its different forms (Asperger), bipolar disorder, brain tumours, depression, migraines, Parkinson's disease, post anoxic brain injury, psychosis, schizophrenia, sleep disorders including narcolepsy, and many other psychological disorders.^{259,260,261,262,263,264,265,266,267,268,269}

- Cancers. Cancers develop and grow in a high-glucose, low-oxygen environment. A state of ketosis starves cancerous tumours and growths, as they are unable to use ketones for fuel.
- Diabetes types I and II, metabolic syndrome are rapidly cured. Getting back on a low-sugar low-carbohydrate diet can eliminate the symptoms of diabetes mellitus in two weeks.⁴⁰¹
- Inflammatory diseases.
- Heart and arterial diseases, atherosclerosis.⁴⁰⁰
- Liver diseases.
- Diseases caused by bacterial infections, particularly of the brain and nerves. Such infections can be a cause of atherosclerosis, Parkinson's and Alzheimer's, multiple sclerosis, Lyme disease, fibromyalgia and other neuropathies.

HUMAN GROWTH HORMONE

Raising your level of HGH is an effective means of reversing several of the biomarkers of ageing, and feeling and looking younger. There are two ways you can raise your HGH level: with injections of the synthetic hormone at great risk and expense; or by getting your own pituitary gland to make it.

Injections of synthetic HGH significantly improve skin strength and thickness and bone density. In as little as a month, it can markedly improve your lean body mass and body fat. Getting your body to make its own HGH can achieve the same effects.

Natural HGH reaches its highest level in growing children. A deficiency in childhood causes dwarfism. HGH boosts tissue and bone growth in children, assists with the uptake of amino acids and fats, and helps with

tissue repair. Doctors inject it into patients who have suffered severe soft tissue trauma or burns.

Adults have some HGH in their bodies, but the level decreases with age. People with an age-related deficiency of HGH become flabby, frail, fat, lethargic, grumpy, tire easily, lose interest in sex, have trouble sleeping, concentrating, remembering things and lose their zest for life. The good news is that these symptoms of HGH deficiency are reversible.

The beneficial effects of synthetic HGH are not permanent. When you stop taking it, your body reverts to its previous state. The risks involved in taking synthetic HGH are just too great. Research shows that cancer, diabetes and complex hormonal imbalances are associated with taking this chemical. Excess bone growth (acromegaly) and carpal tunnel syndrome are also possible consequences.

The only way to get safe, natural, effective, low cost youthful levels of HGH for the rest of your life, without any side effects, is to make your own. *Grow Youthful* discusses each of these techniques in more detail:

- Fasting.²⁸⁵
- Weight-bearing exercise. (A study showed that strength in elderly men is not enhanced by synthetic HGH injections if they are also doing weight training.¹⁴ⁱ)
- Meditation and relaxation.
- Diet. A low carbohydrate, moderate protein diet is the most effective. Sufficient short chain fatty acids such as butyric acid (page 321) helps. In addition, the amino acid arginine found in raw nuts, grains and beans stimulates the pituitary gland to secrete elevated levels of HGH.
- Sufficient deep sleep.
- Sex (page 213) mainly for women, but also for men.
- The factors that cause metabolic syndrome also inhibit the production of HGH. The more insulin there is in your blood, the less HGH there will be.

ONGOING INFECTIONS

You may be surprised to hear that most people, especially old people, have serious, ongoing (chronic) infections in their bodies. These infections never let up, and after months or years their immune system becomes weakened. Few people, including most doctors, suspect that there is a strong link between chronic pathogenic infections and numerous degenerative diseases (such as heart disease and cancer).

We all carry pathogenic microbes – this is quite normal. They include bacteria, fungi, protozoa, viruses and (sometimes) larger parasites. As we age, we tend to accumulate more of them and give them more opportunities to multiply and establish. Most old people have chronic infections of microorganisms. When allowed to multiply these microorganisms can cause a variety of chronic and severe diseases.

The most obvious infections are **acute** infections. They cause a disease with symptoms that run their course over a period of days or weeks, and then are eventually controlled or cleared from the body. These are the kind of infections that hand washing and good hygiene prevent. Medical doctors are more familiar with them, and treat them with pharmaceuticals such as antibiotics and antivirals.

However, many insidious infections are **chronic** – microorganisms that lodge inside cells, deep in nerves or the brain, or in biofilms that they form to house and protect themselves. They steal significant amounts of glucose and nutrients from the surrounding cells, sabotage your immune system so they can survive, excrete toxins, and gradually establish larger numbers over many years. A primary cause of ageing is the debilitation of the body and the stress on the immune system from chronic infections that build up over several decades.

Those on a high sugar, high carbohydrate, refined food diet are usually infected with candida and other yeasts. Fungal infections are found throughout the body, most commonly in the colon, the skin and nails (particularly around the feet), the urinary tract and the lungs.

The most common source of ongoing bacterial infections is your mouth. Root canals, posts, poor dental work, infected gums and decaying teeth can harbour infections (page 295). Often there is no pain, and no obvious symptoms such as bad breath or visible damage. The bacteria that cause these infections trigger an immune response that often causes inflammation and ailments throughout the body. These include a variety of cancers, chronic fatigue, atherosclerosis, heart disease, stroke, Alzheimer's disease, Parkinson's disease, ALS, schizophrenia, mood disorders, cognitive impairment, multiple sclerosis, arthritis and dementia have all been shown to be related to infections.²⁰⁷

There is no point in trying to avoid the billions of microorganisms we are exposed to in normal air, food and water every day. As discussed in the section on antibiotics on page 274, our bodies are a living ecosystem of bacteria and fungi, most of which are beneficial or even essential for our lives. The problem is not the presence of pathogens among all the microorganisms we live in, but keeping the pathogens in check and balance.

The richest source of human-adapted microorganisms is other people. This applies of course, to both the good and the bad. You are most likely to catch a pathogenic infection from other infected people. A common cycle is to suffer a mild illness at the time of infection, followed by an apparent recovery. However, the pathogens may persist in the body as they gradually establish themselves and proliferate. Around the world in both poor and developed countries, a minority of children are infected with viruses like herpes, *human papilloma virus* and *cytomegalovirus*; bacteria such as *helicobacter pylori* and *chlamydomphila pneumonia*; and protozoa like *toxoplasma gondii*. However, the vast majority of adults around the world have high levels of antibodies to all these infections, suggesting that virtually everyone has been exposed to them.^{48,93,105,121}

Chronic infections can be the root cause of many degenerative diseases, including heart disease,¹²² stroke,²⁷³ cancer,^{271,272} stomach and digestive ailments, multiple sclerosis, Alzheimer's disease, depression,^{207,270,275} diabetes²⁷⁴ and many more. Smelly, grouchy, dodderly, demented, pained old people almost certainly have several chronic infections.

HOW DO YOU PROTECT YOURSELF?

There are several simple, effective, cheap, natural remedies that both prevent and cure chronic infections by most harmful fungi, bacteria, protozoa and viruses. They include borax, iodine, [colloidal silver](#), [BHT](#), apple cider vinegar, butyric acid, probiotics and of course, developing a strong immune system. Get sufficient [iodine](#), selenium and [boron](#) to boost the immune system's pathogen-killing ability.

The most important thing that allows these microorganisms to multiply is the "terrain" or environment that you give them. Bacteria are not like other larger living organisms that breed true according to the parent's genetic code. Instead, bacteria morph from one species to another, partly by the horizontal transfer of genes by various weird and wonderful biological mechanisms that scientists are only just starting to observe. One species of *lactobacillus* can morph into another in response to environmental conditions, and it is likely they can also morph into other bacilli. With bacteria, it is more or less the case that whatever the environment dictates will cause the appropriate bacteria to appear spontaneously.

Give your body and especially your immune system the best possible nourishment. Starve harmful microorganisms by avoiding or minimising the nutrients they need. Most pathogens love sugar, so minimise sugar to maintain a low and steady level of blood glucose, and never overeat. So eat nutrient-dense foods rather than calorie-rich foods. Many pathogens love grains. In particular, a no-grain, no-sugar diet will help immensely. It is not just *candida* that thrive on sugar.

Note that it is important to have a little glucose in your blood. Those who go on a strict fast or a strict ketogenic diet often find that old infections reappear. Your immune system needs a minimal level of glucose to provide reactive oxygen species, peroxides and acids that it uses to kill bacteria, fungi and cancers.

Some bacteria and protozoa thrive when you eat grains. In addition, the toxins in grains (particularly wheat) upset your digestion, destroy

intestinal cells, cause leaky gut, inhibit vitamin D ^{283,284} and much more. A grain-free diet protects against pathogens.

Bacteria need niacin to thrive, so if you supplement niacin, take it only once per week, rather than every day. The body can easily store a week's worth of niacin, but microbes do not have the ability to store it and need it every day.

Iron is another mineral that most pathogens need. ^{276,277,278,279,280,281,282} Never supplement iron unless you are an anaemic menstruating woman and truly need it. Instead, adopt strategies for iron chelation or donate blood regularly.

Eat a moderate, but not high protein diet. Some pathogens such as *c. pneumonia* and *t. gondii* need certain amino acids, so a high protein diet helps them to flourish. Keeping to the protein intake and doing the resistance exercise recommended in this book will minimise excess amino acids.

Avoid antibiotics (page 274) if you possibly can, and instead keep taking probiotics. Irritable bowel and debilitating infections in the small intestine or colon often respond dramatically and within a day or two to a [faecal microbial transplant](#). Yes, that means getting the faeces of a healthy donor and putting it in your own gut.

Investigating the human bacterial biome is the current leading edge of research in many universities around the world. In the near future, instead of taking antibiotics, we will take specific probiotics to treat an ailment. For example, for an eye infection we will take eye drops containing a range of bacteria from a healthy person's eye.

A course of antibiotics is a last resort. Many traditional doctors have a reputation for handing out antibiotics like sweets, but occasionally antibiotics are genuinely needed. However, they may not always be effective. Antibiotic resistance is an increasing problem.

How to do a faecal transplant

The thought of a faecal transplant makes most modern Western people go “yuk!” However, it is not nearly as repulsive as it initially sounds. Consider how young children sometimes swallow faeces, as do dogs and many other animals. In fact, MOST animals in their natural environment swallow the faeces of their peers as they graze during the day or drink at a waterhole. It is hard to think of any animals that don't eat at least some of their fellow's excrement - perhaps modern humans are the only example?

Patients often find their own donor, such as a spouse or family member. The best donors are those who have never had an antibiotic in their entire lives and who enjoy good health and particularly, good digestion. There is an “ick” factor about using someone else's poop. If you are using a health professional and the donor is not someone known to the patient, then the donor needs to put them through the same level of screening as for a blood donation, for example.

In future as this therapy becomes widely used, I hope it will be possible to buy healthy stools sourced from a remote and “primitive” hunter-gatherer, in pleasant-tasting enteric-coated capsules at your supermarket.

Use a doctor. Three methods of faecal transplantation are used to get the faecal donation into the patient. Most doctors prepare the faecal sample by putting it in water and filtering out the solid matter. I question whether this is necessary, as the goal should be to keep the donation as intact as possible.

- Most health practitioners use a bowel cleansing routine, followed by a colonoscopy to squirt a solution made from the donated faeces through the anus and high up into the large intestine as an enema.
- A few doctors use a tube down the throat (nasogastric or nasoduodenal tube) and through the stomach to reach the small intestine.
- The cheapest, easiest way is an enteric-coated capsule - this is a capsule that does not dissolve until it has passed through the stomach.

Do it yourself. You don't necessarily need a doctor's help to do a faecal transplant. All you need to do is get a small sample of stool from someone with good intestinal health into the receiver's small intestine or high in the large intestine. There are two ways to get someone else's stool into the intestines.

- Swallow it. Some people fill a capsule with faeces. If taking faeces orally without a capsule, drink lots of water afterward to help wash the bacteria through the stomach and its acid barrier, and down into the small intestine.
- Insert it into the rectum. If inserting it up the anus, you need an enema or colonic tube, an enema syringe or a Higginson syringe, all available at most pharmacies. To do the transplant, the recipient should first go to the toilet and empty the bowels as much as possible. Then carefully and gently insert the donated faeces as high as possible up into the recipient's colon. You may need to use a lubricant for the tube. Lie down for a while to give the donation a chance to go as high up the colon as possible. A colon massage is a nice way to finish the procedure.

Sometimes the first attempt will "take", but often multiple attempts are necessary, particularly by those who are doing it themselves. I heard of a case where someone self-applied a friend's donation for several weeks before enjoying complete remission of their ulcerative colitis / Crohn's disease.

The first medical faecal transplants were done by pioneering doctors treating patients with *clostridium difficile* infections. *C. difficile* is a dreadful colonic infection that leads to years of misery and death. Faecal transplants were dramatically successful, with patients being virtually back to normal in days. In 2011 the word got out when competing articles describing these successes were published in a variety of journals.

Medical associations and pharmaceutical companies are caught between a rock and a hard place. They stand to lose a lot of money from selling drugs, surgery and other expensive treatments. Some of them have now started using faecal transplants, but as a surgical procedure under a general anaesthetic! (What an absurd overkill!) Pharmaceutical companies are trying to isolate the bacteria that confer the most benefits,

no doubt hoping to sell them in a high-priced, doctor-controlled, patented pharmaceutical capsule.

Biofilm

Several pathogenic bacteria build themselves protective housing called biofilms. Bacterial species that make biofilms include *Campylobacter spp.*, *Escherichia coli O157:H7*, *Helicobacter pylori*, *Legionella pneumophila*, *Listeria monocytogenes*, *Salmonella typhimurium*, *Staphylococcus aureus* (golden staph) and *Vibrio cholerae*. Biofilms protect the bacteria from other competitive microorganisms, from the host's immune system, and from antibiotics. Biofilms normally occur on surfaces or membranes such as in the gut's lining. Over time the biofilms tend to calcify and mineralise, producing a hard protective surface, somewhat similar to tartar or dental plaque on the teeth.

Biofilms are more likely to occur if you have an excess of calcium or iron in your body, particularly if taken in the form of supplements. Taking polysaccharide and protease digesting enzymes can help prevent them. However, the most effective remedy to remove biofilms is the regular use of acids in your food and drink. Apple cider vinegar, sour liquid whey, sour citrus juice, all kinds of lacto-fermented foods (like sauerkraut) and all foods and drinks that are slightly acidic are beneficial in this case. Numerous foods and drinks, ranging from a salad dressing to a glass of dry wine, are slightly acidic.

Pork is often infected with hepatitis E virus, and eating undercooked pork or pig liver is extremely risky (particularly smoked pork sausage made from raw ingredients).

CANDIDA

Candida is a yeast, one of over 1000 bacteria, protozoa and fungi present in your intestines. *Candida albicans* normally reproduces slowly, in a process called budding. If your gut is healthy, there is lots of competition between the different bacteria and fungi, and the candida's reproduction is restricted. However, if the balance of microorganisms in your gut is upset, the candida can proliferate out of

control. The most frequent and damaging cause is antibiotics (page 274). Other causes include sugar, insufficient stomach acidity, chronic stress, environmental toxins, and drugs such as oral contraceptives, antacids and steroids.

Antibiotics kill all the bacteria in your gut indiscriminately – the good and the bad. Candida is not a bacterium so is unharmed by the antibiotics, so suddenly it has little competition and can reproduce rapidly. It changes its method of reproduction, producing tubes or rhizoids. These tubes penetrate your intestinal tissue and blood vessels, causing a leaky gut that exposes your blood to yeasts and the by-products of digestion.

In these circumstances, you are likely to develop allergies to the foods you eat most frequently. Your immune system sees the partially digested proteins in your blood as invaders (antigens), and responds by forming antibodies. The more you eat the food, the stronger the sensitivity or allergy reaction. The foods that candida sufferers most commonly react to are wheat, corn, soy and dairy products.

An overgrowth of candida produces large amounts of two toxins – alcohol and acetaldehyde. The effects of alcohol are well known. It is possible for a teetotaler suffering candida to be drunk most of the time. Many cases of children and adults behaving as if they were drunk have cleared up after removing a candida colony. Candida can be devastating during the early stages of pregnancy, when the foetus is highly susceptible to alcohol.

Acetaldehyde affects brain function, making sufferers feel fuzzyheaded and unable to think clearly (brain fog). The two toxins can cause mood swings and irrational behaviour.

Other symptoms of candida include chronic yeast or fungal infections (often in the vagina, between the toes or on the nails), digestive problems such as flatulence, reflux or irritable bowel syndrome, alternating diarrhoea / constipation, abdominal bloating, PMS, muscle and joint pains, post nasal drip, sinus infections, congestion, cravings, brain fog and ongoing fatigue.

Candida thrives when there is lots of sugar in your gut. People suffering from candida have cravings for sweet foods. Typically they will have a sugar-forming meal, feel good immediately after, but suffer flagging energy an hour or two later. Again, they will reach for something sweet and the cycle continues.

If you suffer from a candida overload, it is important to eliminate all sugar in your diet, and refined high Glycemic index foods like pastries, breads, cakes, sweets, jams, fruit juices and soft drinks. Other foods that can promote candida include alcohol, bakers and brewer's yeast, mushrooms, mouldy foods, dried fruits, wheat, potato, winter squash, yams and corn based products, fruits (especially sweet or mouldy fruit), white vinegar, pickles, dairy products (except kefir and sour yogurt) and some soy products. Peanuts and many grains are often contaminated with fungi.

Foods that provide good flora to help re-establish a balance in your intestines include unsweetened natural yogurt and kefir (see page 131). Coconut oil provides lauric acid, a natural anti-fungal that suppresses candida growth. Garlic is another useful anti-fungal food. From health food shops, you can buy capsules containing olive leaf extract, grapefruit seed extract, or oregano oil. You can also buy capsules containing *lactobacillus acidophilus*, *saccharomyces boulardii* and *bifidobacteria* to re-establish good bacteria.

For the first few days or weeks of treating a candida infection, you may feel worse. As the yeasts die off they release toxins quicker than your body can eliminate them, causing fatigue, aches, pains and headaches. Drink plenty of water and herbal teas. A chronic candida infection may take months to heal.

PARASITES

As many as 95% of us have some form of parasite in our body, ranging from tapeworms several metres long to mites on and under the skin, to tiny worms and cysts little larger than bacteria. There are thousands of different parasites that can infect the human body, although you are unlikely to be exposed to more than a few of them while living in

one place. They have different life and breeding cycles. Most are located in the gut and digestive system, but the majority of your soft tissues are susceptible.

Most parasites enter your body through your mouth and the food you eat, and reside in your gut. Others enter your body through your skin. If your skin is exposed to infected soil or water, the flukes can burrow through it and start their life cycle. If parasites are left untreated, some will eventually burrow through your gut and then infect other organs. Parasites that have found their way into your liver, lungs and other organs can be difficult to treat.

Strong stomach acidity (page 242) is a good protection against parasites in your food and drink. If your stomach is not acid enough, many parasites (or their eggs) and bacteria are able to pass undamaged through your stomach and infest the remainder of your digestive tract.

Initial **symptoms** of parasite infection include dark rings under the eyes, and niggling intestinal disturbances such as rectal itching, bloating, excessive gas and diarrhoea. Later, you may suffer weight loss, anaemia, allergies, skin complaints and fatigue. Advanced symptoms include a wide variety of degenerative diseases.

If you are not in perfect health, it is worth taking an herbal parasitic treatment every year or two, whether you are aware of any parasite symptoms or not.

Of those herbs that may be in your pantry, raw garlic, cloves and turmeric have anti-parasitic properties. Other herbs used include green hull of black walnut, wormwood, elecampane and extract of grapefruit seed. Herbs are an excellent general, long-term, and preventative parasite treatment. However, if you have a specific infection that has been identified, and a treatment exists for that particular parasite, a tablet or injection can often prove faster and more effective.

Wash your hands before meals and food preparation (yes, grandma was right).

Pets are a source of parasites. Keep them de-wormed, and do not let your pets come into contact with your food or food preparation areas.

Some parasites are highly infectious. If one member of your family has pinworms, for example, all members should be treated. (Pinworms are small white worms that you can clearly see in your faeces). Sometimes a worm tablet is the fastest and most effective means of treating the whole family together. At the same time, the toilet should be thoroughly cleaned, including the door handle, light switch and flushing button. Underpants and pyjama pants should be changed. Bed sheets, pillow cases and towels should also be changed, as the eggs are laid on the outside of the anus at night while the infected person sleeps.

Dirty fingernails are a common place where worm eggs accumulate, so children in particular should have fingernails kept short and clean.

ENVIRONMENTAL

Our early ancestors spent virtually all their waking hours outdoors in the fresh air, subject to the rhythms of the sun, the moon, and the seasons. They were immersed in daylight, ambient temperature, the wind and the rain. They could feel the air pressure and humidity, and were aware of the coming changes in the weather.

Today most of us live and work indoors all the time. Our houses, schools, offices, cars and shops provide artificial environments. They often have sealed windows and air conditioning, temperature control, electric lighting and high levels of noise. We live in an artificial environment.

MEDICATIONS

DRUGS

Officially, the fourth most common cause of death in the USA is adverse drug reactions (ADR).³⁹ Drugs and medications of all sorts are possibly the leading direct cause of death and illness in the Western world. Antidepressants, tranquilisers, beta-blockers, antihistamines, antibiotics, steroids, vaccines, oral contraceptives, over-the-counter medications and thousands of other drugs are consumed in vast quantities every day, with their users hoping for the benefits advertised.

All recreational and mind-altering drugs such as cocaine, crack, speed, heroin and marijuana also have side effects. You cannot expect good health if you are using drugs. They provide the hope or illusion of health or relaxation, create dependence, rob you of both your money and your ability to care for yourself, and disconnect you from your essence.

The official ADR figure does not include overdoses, or cases in which the drug was administered in error. If you include the errors made by doctors and medical staff, then pharmaceuticals, doctors, hospitals and medicine become the third leading cause of death in the USA, killing 250,000

people each year⁵⁰. This leading cause of death is a new phenomenon that has only come about in the last century. I suspect this figure is too low, as it only represents the numbers admitted to by doctors, insurance companies and their representative bodies.

If 250,000 Americans were killed by medications, can you imagine how many more are alive, but suffering from horrible side effects? I suggest that nearly all people who are taking manufactured medicines are suffering the consequences in one form or another. Often, these illnesses will seem unrelated to the medications. *Millions of people are sick and dying because of the drugs and medications they are taking!*

On 18 July 2002, the Australian Council for Health and Safety released a news item stating that 2-3% of hospital admissions in Australia, totalling 140,000 patients, were caused by ADR. I suspect this figure is many orders of magnitude too low. Firstly, the pride of the medical profession is at stake, having to admit that a large proportion of illnesses, hospital admissions and deaths are caused by the very medications they are prescribing! According to Dr David Lipschitz,^{95A} 26% of hospital admissions in the USA are due to drug related illnesses. He adds that among adults who are taking eleven or more drugs daily, the risk of adverse reactions approaches 100%.

The Western allopathic approach to treating disease is often the cause of the disease, not the cure. Drugs interact with each other and with pollutants in the environment to form complex, un-researched, unknown by-products, often in minute quantities. Sometimes these complex chemicals are unique to the particular individual, depending on the combination of drugs they are taking, foods they are eating, and pollutants to which they are exposed.

Human biochemical, electrical and energy systems are so complex that at this time science has little understanding of them. Our knowledge of hormones, enzymes, electrical and energy systems is increasing rapidly, but we still have little idea of the ramifications of using manufactured drugs and medications in our bodies. The interactions of drugs with our

hormones, enzymes and with other drugs, foods and pollutants are complex, subtle and often long-term.

A study⁴⁴⁸ found evidence that associates vaccinations with autoimmune diseases including systemic lupus erythematosus, rheumatoid arthritis, inflammatory myopathies, multiple sclerosis, Guillain-Barré syndrome and vasculitis. This paper also discusses macrophagic myofasciitis, aluminium-containing vaccines, and the recent evidence for autoimmunity following human papilloma virus vaccine.

I firmly believe that **nutrition** is the key to good health. Natural micronutrients and herbs, (along with the living foods recommended in *Grow Youthful*) are nearly always the most effective treatment for any disease. Many doctors are getting better results with diet and lifestyle changes than with drugs, though they risk the ire of their medical associations for not conforming. Whilst manufactured drugs have a place in the treatment of chronic diseases and life-threatening illnesses, they also have a cost.¹²⁹ *Do not take any drug lightly.*

Drug Companies. The objective of pharmaceutical drug companies is to maximise their profits. They spend at least two and a half times more on marketing than on research.^{51,107} They have no incentive whatsoever to provide the cheapest, most effective alternative for any ailment. On the contrary, *they try to hide or discredit all alternatives to their own current, most expensive, patented drug, even when these alternatives are demonstrably superior.*¹⁰⁷

A successful pharmaceutical drug reduces your symptoms, and keeps you dependent for the rest of your life. A drug that actually cures you is a disaster because a customer is lost.

The pharmaceutical drug industry relies on patents and legal approvals. The granting of a patent and approval for sale for a drug or a manufacturing process provides the lifeblood for drug companies. They will do anything to secure as many patents as possible in order to stifle their competition, and maximise their profits by selling at the highest possible price to their customers.

In the USA in 2004 prescription drugs were a \$200 billion dollar industry, growing at 12% per annum and the fastest growing component in healthcare. The average annual cost of each of the fifty most commonly used drugs by the elderly was \$1500.

It requires enormous capital and long testing periods before a drug is approved for sale to the public. In America, it often takes 10 years and \$1 billion to get a new drug onto the market. Only a few companies have the resources to do this. The bigger and more profitable the industry, the more it can afford to lobby (bribe) politicians and decision makers to pass laws that benefit themselves. Usually new drugs approved for patent and sale are “me too” drugs, with a slightly altered molecule to an existing drug. In the USA, the testing required for drugs does not require that they be compared with their close cousins, with any other drugs, or with any natural or traditional medicines. It is sufficient to show that they are effective in curing a particular ailment. *The fact that they may be less effective than all the alternatives is deliberately concealed.* Frequently a new and less effective drug will go on sale with a new patent, a higher price, and a campaign to hide or discredit the expired-patent drug it is replacing.¹⁰⁷

Many drugs are ineffective, with falsified studies, lobbying pressure, and placebo effects distorting their use. “In more than half of the clinical trials for six leading antidepressants, the drugs did not outperform the placebo”.¹²⁹

This is why drug companies are not interested in natural or traditional products, which are usually more effective than pharmaceuticals and have no side effects. Thousands of foods, herbs and simple natural remedies are more effective than their pharmaceutical counterparts, but these natural remedies are not used because there is no financial incentive to do so. For example, vitamin C is a cheap, effective natural antihistamine, with no side effects. Perhaps you are allergic to pollen. Next time you find yourself sneezing, try it!

Colloidal silver is a safe and effective antibiotic, antifungal and antiviral, cheap and without side effects if used correctly. It is subject to an ongoing campaign to discredit it.

Old diuretics are far more effective for treating high blood pressure than new drugs like ACE inhibitors and calcium channel blockers, but are seldom used.¹⁰⁷ There are thousands more examples.

Western (Allopathic) Medicine treats symptoms, not causes. The focus is on an immediate cure, rather than investigating why the problem occurred. The doctor, rather than the patient, takes responsibility for the patient's health and care. Little emphasis is placed on self-care, personal responsibility and the interconnections that every aspect of our being has on every other aspect.

The doctor typically diagnoses a symptom and prescribes a drug or medication to cure it. These drugs are so powerful and dangerous that the public needs to be protected from them with laws that only allow them to be dispensed with a prescription. Doctors have turned into licenced drug dispensers.

Allopathic medicine provides effective treatment if you have an acute injury. If I were seriously injured in a traffic accident or suffering a life-threatening infection, my immediate choice of treatment would be a modern hospital. Drugs can provide a rapid cure of many infections, but usually with recurrence or serious side effects (page 274).

Western medicine's weakness is in its treatment of degenerative diseases. Doctors are often completely ineffective or even make the disease worse.

Degenerative diseases always have a cause. Treating the symptoms of a disease will provide no more than temporary relief. Causes include factors such as chronic stress, negative lifestyles, dehydration, toxic environmental factors, junk food, over-eating with malnutrition, antibiotics, microwaves, water and air pollution, poor breathing and lack of exercise.

The idea that germs cause disease, proved by Louis Pasteur in the nineteenth century, provided the basis for combat medicine, which fights diseases with drugs. It sees ill health as a battle, rather than the final symptoms of an imbalance. Cancers are burned, irradiated or cut out, and heart disease is palliated with bypass surgery and drugs. The steroid or anti-inflammatory drugs used to treat arthritis reduce the pain, but do nothing to stop the progression of the disease. A single course of antibiotics increases the risk of subsequent infection by several times. All drugs and medications have side effects, even those you can buy over the counter. Painkillers increase the risk of headaches, decongestant cold cures increase the risk of a stroke, and even aspirin damages your digestive tract.

The root causes of most degenerative diseases are often embarrassingly simple, but doctors cannot stay in business by taking that route.

Our allopathic medical system is geared towards treating a certain number of patients per hour, and prescribing drugs to cure the symptoms presented. Yes it works, at a superficial level. The medications prescribed often produce a rapid but temporary cure or relief from the symptoms. It suits modern society – a quick visit to the doctor, a pill, a rapid cure. Many people do not want to take responsibility for their health, or think about the long-term consequences of their lifestyles.

The “system” even prevents doctors from prescribing natural remedies. In Australia for example, the Medicare system monitors each individual doctor’s patients, and calls them to account if they are not using the standard pharmaceutical drugs.

The current system is lucrative for doctors, and suppliers of drugs and medical equipment. Most doctors budget their time in terms of minutes per patient. Drug and medicine manufacturers sell large quantities of their products on an ongoing basis. Patients are locked into the system until they die. The price of drugs and consultations steadily goes up, taking a larger and larger portion of the total economy.

Drugs are sold in standardised doses, with no allowance for patient's individual needs. Often, drugs are tested on healthy young volunteers and doses are based on their results. In the same way that some people are heavily affected by alcohol and others not at all, different people react to drugs in different ways. The standard dose may be effective for some people and damaging to others.^{115A}

There is no financial incentive for the doctors or the drug manufacturers to change. The pride of the medical establishment is also at stake. Imagine conventional, allopathic doctors admitting that a drug or medicine should be the last, rather than first choice for most complaints. Momentum also plays a large part – a change of culture is required, which may take at least one generation of doctors. There will be a lot of resistance to changing the curricula at medical schools. A different type of person needs to be attracted into medicine – less drawn to the prestige and large incomes, more willing to spend time with patients, and with a great respect for both nature and ancient wisdom.

It would be almost impossible for a doctor or any conventional medical specialist to have written this book. Health professionals are beholden to their professional associations, which rigidly (and profitably) adhere to conventional and accepted medical practises. The average medical curriculum includes only a two days studying food and diet. Many Western doctors graduate ignorant of how good food and everything else we have discussed in *Grow Youthful* will determine your health.

A change of culture is also required in the general population. Many people do not want to take responsibility for their own health, and prefer a system of doctors and fast cures – until their first serious illness. Often, the cure to an ailment is remarkably simple - the ignorance of both the doctors and the public is responsible for its continuance. In the long-term, the key to excellent health is common sense and self-responsibility.

ANTIBIOTICS

"The history of medicine shows us very clearly that there is a recurring tendency for different forms of treatment to become fashionable and to

be used overenthusiastically, often to the exclusion of simpler and more effective forms of treatment.” Ainslie Meares.⁵⁴

Antibiotics were responsible for the elimination of many of the diseases of the eighteenth and nineteenth centuries, such as cholera, diphtheria, rheumatic fever, scarlet fever, smallpox and tuberculosis. Initially penicillin was effective in curing bacterial infections. However, in the areas where it was widely used, the bacteria gradually developed a resistance to it. Larger doses of antibiotics were needed for longer periods.

If an infection is treated but not completely eliminated with an antibiotic, the bacteria that survive are those with the most resistance to that antibiotic. The worst possible case is where a person or animal is given low doses of an antibiotic over a long period – not sufficient to kill the bacteria, but instead providing an environment in which successive generations of the bacteria develop resistance to that antibiotic. This is happening today in several areas. Doctors sometimes prescribe antibiotics for the most minor infections, not aware of the devastating side effects on the gut and digestive systems of their patients. Antibiotics are routinely included in poultry and stock feeds. Many chickens and cows spend their entire (and short) lives on low doses of antibiotics, because the stock feed companies have discovered that this is a cheap and effective way to keep the animals alive and apparently healthy. It also makes them grow faster, although the reason why this happens is not clear. Without the antibiotics, the animals would rapidly succumb to the poor stock food quality, crowded conditions, lack of hygiene and stress. Because of the uninhibited use of antibiotics, drug-resistant strains of virtually every disease-causing bacteria have evolved.

Doctors treating remote tribal communities in Africa and other less developed parts of the world have been amazed at the effectiveness of basic antibiotics such as penicillin, which would have had little success in the Western world in combating the same species of bacteria.

Up to 2½% of your body’s weight consists of bacteria. Most of these bacteria are beneficial or even essential for your life (probiotic). Over

1000 different strains of bacteria weighing up to 2 kg reside mainly in your digestive tract and throughout your body.²²⁰ They play an essential part in your immune system, and protect you from pathogenic bacteria, fungi and viruses. Bacteria are resident on all your membranes, protecting you against other infections. It is essential to have bacteria in your digestive tract, throat, nasal passages, lungs, urethra, vaginal walls, skin, ears, eyes and mouth.¹⁹² Your bacterial biome is a complete ecosystem.

Bacteria play an essential role in your digestion – without them, you cannot break down many foods and absorb the nutrients. These natural gut flora make several vitamins (particularly B12), steroids and fatty acids, break down toxins, help to digest and absorb nutrients, prevent the overgrowth of yeasts, parasites and bad bacteria, and are essential for the healthy functioning of your digestive system. People with bowel diseases have a reduction in the variety of bacteria in their gut, typically 750 instead of more than 1000.²²⁰

When you take an antibiotic, you destroy most of the friendly bacteria in your body in addition to the target pathogens. It can take six months or more to restore a balance of bacteria in your gut and throughout your body, and many people never recover. After taking an antibiotic you are vulnerable to invasion by bacteria, fungi (see candida page 263) and viruses. According to Geoffrey Cannon and other writers,^{55,192} antibiotics have a connection with most new diseases that are emerging. Cannon and many other researchers believe it is unwise to use antibiotics, except where the infection is acute or life threatening.

The rate of infections and deaths from infectious diseases is increasing rapidly.⁵⁵ It seems that the widespread use of antibiotics is now having exactly the opposite effect to that intended. In addition, antibiotics are frequently ineffective – they don't work against viruses or fungi, are not suitable for gut infections, and should never be used to prevent infections (such as in some acne treatments, or malaria preventatives).

Your best defence against infection is a strong immune system based on an uncompromised bacterial population in your gut, and an acid stomach. If you succumb to an infection, use a natural cure such as colloidal silver or herbs that do not have the devastating consequences of antibiotics.

There is plenty of research ^{156,192,207} confirming that obesity, asthma, heart disease, a variety of digestive diseases and many inflammatory diseases have a bacterial, protozoan or viral cause. The destruction of your gut biome, or gut's ecosystem after a course of antibiotics can directly cause a wide variety of serious ailments. This goes hand-in-hand with the modern Western diet, which promotes harmful bacteria and protozoa with plenty of sugar, refined carbohydrates, and especially grains. These modern diets are also low in fibre, particularly resistant starch, that beneficial bacteria need to live on.

Bacterial imbalance can cause:

- Allergies
- Asthma
- Autism
- Autoimmune diseases of all sorts (such as multiple sclerosis)
- Colitis
- Digestive disorders of all sorts
- Emphysema
- Neurological disorders. All sorts of diseases of the brain, psychological problems and mental disorders
- And a HUGE variety of other ailments.

Bacteria, or lack of them, have such a strong effect on most diseases that the basis of any treatment for any illness is getting your bacterial biome back to a healthy normal.

Other natural alternatives to antibiotics include probiotic beneficial bacteria (page 131) that reinforce the body's natural defences, and overwhelm the pathogenic bacteria. The best and most effective are in fermented foods such as sauerkraut, miso, tempeh, yogurt and kombucha. Various herbs and foods are effective in fighting specific

infections, without upsetting your intestinal flora. Garlic, ginger, grapefruit seed extract, aloe vera, vitamin C, zinc and Artemisia are examples.

If you have a serious ailment, a faecal transplant is the quickest, cheapest, most effective way to get your gut biome back to normal (page 259).

HOUSEHOLD POISONS

Have you just bought a new car, house, carpet, or set of furniture? Well, for the next few months you will be exposed to a cocktail of toxic gases. New vehicles have a potent array of paints, plastics, vinyls, carpets, sealers and numerous other chemical agents. The best thing you can do until that new car smell is completely gone is leave the windows open as much as possible. Similarly, if you have new paint, carpet, floor sealers, curtains (drapes), or whatever in your house, leave the windows wide open and get as much fresh air through the place as possible. Try to do that all the time, not just when there are poisonous gases around.

Marking pens, highlighters, artist's paints and other stationery are an insidious source of toxins, especially those based on solvents other than water. Some pens use complex proprietary chemicals or xylene. Do not use stationery in a closed room if you can smell the inks or solvents.

Formaldehyde is widely used in the manufacture of chipboard, plywood and carpet, and can leach out of furniture and floors made with them for over five years after their manufacture. It is used in many household and personal care items – even some shampoos. Formaldehyde combines with the proteins in your blood. Your immune system thinks your own proteins are foreign, and attacks them. Formaldehyde is a strong poison with no antidote. The list of other poisons used in manufacturing household goods today numbers in the thousands.

Aluminium is widely used in food packaging, cheaper forms of cookware, deodorants, antacid medications, public water supplies and toothpaste. If

you have any aluminium pots, pans or cutlery, may I suggest that you throw them out. Aluminium is associated with premature senility and memory loss.

Aluminium is a zinc antagonist – in other words, it prevents your body from taking up zinc, and disrupts the activities of this essential mineral. On the flip side, having sufficient zinc will reduce your uptake of aluminium.

Plastics can contain several thousand different chemicals, none of which the plastics industry is obliged to disclose. Some of these chemicals have strong hormone disrupting effects, particularly alkylphenols. Plastic food wrapping & containers are suspect. Never heat foods in plastic, especially in a microwave oven. Plastic should not be used for the storage of food or drink, neither is cling film recommended for wrapping. Glass is the preferred storage material for all food and drink.

Washing, cleaning, laundry detergents, polishing, insulation materials, glues, solvents, carpet, paint, dye, plastic, bleaching, deodorising, perfuming, antibacterial and thousands of other household products contain a myriad of chemicals you could not hope to be aware of. The best advice is to use as few as possible, stick to products made with natural ingredients that you understand, and ensure that you only use them in a well-ventilated area. Laundry detergents are often highly “perfumed” with toxic chemicals that impregnate your clothes.

I recently bought a spectacle lens cleaner, which worked beautifully. On reading the writing on the can, I discovered it contains isopropyl alcohol. The instructions said to use it in a well-ventilated area. I suggest only using it outside, and while wearing rubber gloves and holding it downwind!

Carbon tetrachloride is used as the cleaning agent for dry cleaning. It can enter your body by being breathed in, or through your skin, and can cause chemical sensitivities. Air all dry-cleaned clothes before wearing them.

Shampoos, soaps, cleaning and shaving products, cosmetics, hair dye, perfume, toothpaste and mouthwash are absorbed through your skin or

mouth. If they are not made from natural and organic ingredients, you will be taking in a wide range of unknown toxins. If you would not be willing to eat it, do not put it on your skin (that is a bit severe – I would not eat soap for example, but you get the drift).

Hair dye is particularly dangerous, especially those that dye your hair black or a dark colour. Temporary henna skin tattoos are acceptable if you use pure henna, but many products sold as henna contain chemical dyes that can set off lifelong allergies.

I walked down to my local supermarket and picked up a container of skin cream, a stick of “natural” deodorant, a tube of toothpaste and a bottle of shampoo. Between them, they contained the following chemicals:

Sodium Lauryl and Laureth Sulphate, Paraffin (petroleum oil), Cetyl Stearyl Alcohol, Cetamacrogol, Octyl Palmitate, Cyclomethicone, Ceteth-20, Steareth-2, Glycerin, Stearyl alcohol, Phenoxyethanol, Benzyl alcohol, Tocopheryl acetate, Carbomer, Potassium Sorbate, Methyl Paraben, Propyl Paraben, Polyparaben, Propylene Glycol, Sodium Stearate, Hydrogenated Castor oil, Sodium Fluoride, Cocamide, Lauramide, Monethanolamine, Diethanolamine and Triethanolamine.

The toothpaste did not list its ingredients, with the exception of Sodium Fluoride, but it would almost certainly have contained other chemicals.

Most of these ingredients are toxic chemicals.⁴⁶ Some damage, dry and clog your skin, strip off the natural layer of oils, and leave it rough and pitted. Others are implicated in the development of degenerative diseases.

My advice is to read the ingredients on the container of any product before you buy it. If there are any you do not understand, or they are not listed, put it back on the shelf.

Question whether you need to use many of these products at all, or in the same quantities. Throughout my twenties and thirties, I suffered from a skin rash on my legs every winter. Eventually, an (enlightened) doctor, who also happened to be a naturopath, asked if I washed my legs with soap. “Of course”, I replied. He told me to stop using soap in my

bathroom, unless there was a heavy build-up of grease or dirt that I could not wash or flannel off any other way. The rash disappeared and a bar of soap now lasts many months.

Not just new products and furnishings are dangerous. Old **carpets** are a notorious source of allergens, and I know of many cases where people have ripped up the carpets in a house, sanded and sealed the floors, and transformed their health. Carpets harbour dust mites, animal dander, skin, hair and a range of other pollutants. If carpets, floors, walls or ceilings get damp or are poorly ventilated, mould or mildew can develop with severe effects on your health.

HEAVY METALS

Mercury cadmium and lead are the three most common toxic heavy metals found in the body. They are synergistic – that is, they assist each other. Thousands of household and industrial products such as paint, insecticides, fungicides (bathroom mildew remover) and cleaners contain heavy metals.

Cadmium is found in superphosphate fertiliser, and we absorb cadmium from the bread made from plants grown in soils to which these fertilisers are added.³⁶ Cadmium also builds up in your body when you drink coffee regularly. Cadmium is an antagonist to magnesium, and inhibits the uptake of magnesium from our food.

Lead leads to a variety of degenerative diseases, and impairs memory and intelligence. Lead is an antagonist to iron—a high level of lead in your body inhibits the uptake of iron. The most common source of lead pollution is from vehicle exhausts, though the advent of low lead petrol has improved the situation since the 1980's, when an estimated 50% of schoolchildren had lead levels high enough to impair their intelligence. High levels of lead pollution are also found in the tap water of new houses, in which copper plumbing has been joined with solder. Flush the

tap for a few seconds before using it. Other sources of lead are cosmetics, paint, cigarettes and pesticides.

Mercury pollutes many seemingly harmless everyday products. It is used in some public water supplies as mercuric acid, giving tap water its sparkle. All seawater throughout the world now contains traces of mercury, with the worst areas near industry, mines, and the mouths of polluted rivers. Fish and seafood caught near these areas are affected and should not be consumed, especially by pregnant women. The higher up the food chain and the older the animals, the worse the effect. Avoid large carnivorous fish caught in polluted waters. Shellfish are also particularly adept at picking up heavy metals from the sea. The Australian coastline is relatively unpolluted compared to the rest of the world.

The silver-grey coloured mercury amalgam dental fillings that millions of people have in their teeth are one of the worst sources of mercury poisoning. These fillings constantly and slowly leach mercury into your saliva as they wear down through chewing, grinding and brushing over the years. They are so toxic that when they are removed from your mouth they are required by law to be disposed of as hazardous toxic waste (page 295).

The diseases caused by mercury are extremely variable with each individual person. Research over many decades has proven mercury to be the cause of a wide range of degenerative diseases for some, but not all people⁹⁰.

ELECTROMAGNETIC RADIATION

In the last few decades, we have been immersed in a sea of new electromagnetic pollution from sources such as household and business electrical supply cables, high voltage power grid cables, transformers, radio and television broadcasts, microwaves from phone company links, mobile phones, wireless computer networks and microwave ovens, and radiation from television and computer screens.

Artificial electromagnetic fields inhibit the functions of the pineal, pituitary, and other parts of the brain and impair immunity by knocking human energy systems off balance. Remember that our bodies are complex electrical-biological systems.

Constant low levels of radiation over extended periods of months or years are likely to be harmful at a cellular level. However, there has been little research in this area, simply because it is so difficult to carry out. How do you measure the effects of low levels of radiation (to which most of us are exposed) over a decade or more?

I will outline the steps you can take to minimise your exposure to radiation. Do the best that you can, within your means, and then forget about it. Fretting or worrying about a nearby cable or tower will do more harm than the radiation itself!

- Try not to spend a large portion of your time close to high voltage overhead power supply lines. Try not to live or sleep within 300-500 metres of the high voltage lines used to supply cities, towns and industrial estates (typically 100,000 – 220,000 volts). The incidence of cancer (particularly leukaemia) within this range is doubled.¹¹⁸
- Check the location of the power cables around your house. You do not want to be sleeping or spending long periods close to any cables in the walls, but particularly those that have heavy use such as supplying the electric oven or heater. People sleeping up against a wall with the house's power distribution box immediately on the other side of the wall, have higher levels of cancer than otherwise.
- There could not be a better way of getting 220 volts close to your body for hours at a time, than an electric blanket. Do not use an electric blanket whilst you sleep. Remember that the level of radiation decreases with the cube of the distance from the source. It is OK to use an electric blanket to warm your bed, but unplug it from the wall (rather than just turn it off) before you climb in.
- The most significant new source of microwave radiation is wireless computer networks. If your modem/router is always switched on, it emits microwave radiation 24 hours a day. Within 3 metres of a

wireless transmitter the radiation is at a significant and dangerous level. Your next-door neighbour, cafés, hotels, schools, colleges, coffee shops, airports and other public and private places now have wireless internet 24 hours per day.

- Microwave ovens emit significant radiation, no matter what the oven's manual says. If you use a microwave oven, stand well clear when you use it.

No level of microwave radiation is safe. The greatest danger is from ongoing low levels of radiation – exactly what the most recent sources of radiation such as wireless networking and mobile phones bathe us in. Unfortunately, there is not often a clear connection between the microwave radiation and the onset of some degenerative illness. It may take years before the problems develop, and they will manifest in completely different illnesses in different people. Microwaves stimulate a human stress response. Passive exposure to microwave radiation triggers this stress response in even the calmest, most balanced individuals.

- Keep away from phone company mobile phone aerials. They emit a constant level of directional microwave radiation. The radiation decreases with the cube of your distance from the aerial. You do not want to be living or working in the path of the focus of one of these aerials.
- Mobile phones emit a significant level of microwave radiation. If you cannot avoid having one, then minimise its use. You can buy a separate aerial that you can place a meter away from your body while you are speaking, and this substantially reduces the radiation levels.
- Digital cordless phones operate in the multi-GHz microwave band. Many people limit their use of mobile phone but use the cordless at home for long periods, mistakenly thinking it is safe.
- Old style cathode ray tube computer monitors and television screens emit a variety of radiation. CRTs also spray your skin and eye surface with ion and microscopic particles.

You may feel that the only way to get away from all this radiation is to go and live in the country. However some rural areas are worse than the cities. Check where the high voltage inter-city power lines are located,

where the main radio and television broadcasting towers are, and where the communications companies have their long distance microwave aeralis.

It sounds as if you cannot get away from electromagnetic radiation, no matter where you live – and that is true. However, I do not mean to be alarmist. Minimise your exposure to the strongest sources of radiation, especially those where you spend long periods, and you should be OK.

CLIMATE

If you have lived in several different climates for any length of time, you will probably know that one of them is more agreeable to your general health than the others are. Sudden changes in the weather or very cold, hot, windy or humid weather can make you feel tired and run down, or exacerbate any existing illnesses. High altitude, air conditioning and excessive exposure to the wind, cold or the sun may have similar effects. People with chronic fatigue and low energy, or those suffering from degenerative diseases such as arthritis, asthma and allergies often report that climatic factors trigger their complaints. Warm dry weather with plenty of sunshine seems to make most people feel better, but it does depend on your particular body.

The seasons also directly affect our health. Winter is associated with depression and fatigue, spring with regeneration and renewal, summer with strength, growth and activity, followed by autumn with mellow pleasantry.

SUNLIGHT

For good health, we need regular exposure to sunlight. Of course, too much can harm you, but do not avoid the sun – take advantage of its

health and longevity benefits.

The ideal is several minutes of overhead natural sunlight each day, or at least 3-4 times per week. Sunlight on your skin creates vitamin D, and is essential for optimum hormonal production, the creation of other nutrients, and the health of your immune system. Ultra violet rays release the nitric oxide stored in compounds in your skin, dilating blood vessels and promoting cardiovascular health.²³⁹

When sunbathing, wear as little clothing as possible. The best time of day to sunbathe is in the middle of the day when the sun is directly overhead. Beneficial UV-B exposure is maximised, making maximum vitamin D. In contrast, when the sun is on the horizon, the good UV-B rays are filtered out and relatively more of the dangerous UV-A rays get through.

Expose your skin for just a few minutes (longer if you are dark-skinned). Take care not to burn or go red. It is the burning, or the inflammation from excessive sun exposure (redness) that causes the damage including cancer.²⁵⁰

Details on [how much vitamin D is created in the sun](#).

A lack of sunlight leads to many problems, such as anaemia, depression, and vitamin D deficiency. It leaves you open to a range of degenerative diseases such as cancer, heart disease, stroke, autoimmune diseases, muscle weakness and rapid ageing. Sunlight helps produce the hormone melatonin, and people with insufficient sunlight can suffer depression.

Vitamin D deficiency is a cause of bone loss (osteoporosis). Unfortunately, an excess of vitamin D is toxic. Taking a vitamin D supplement when it is not needed is dangerous. If you let the action of sunlight on your skin make your vitamin D, there is no danger of overdosing.

Your pituitary gland receives light energy through your retina and optic nerve. Light also influences your pineal gland and regulates many human biorhythms, particularly sleep.

If you live further than 30 degrees latitude from the equator, and seldom have sunlight on your skin, you may need to supplement vitamin D. The

richest food is liver, others include cod liver oil, oily fish like salmon, mackerel and sardines, and egg yolks.

Too much sunlight. You are more likely to burn your skin in the sun in the summer, closer to the equator, at high altitudes, and near reflective surfaces like snow, water and white sand. Strong or excessive sunlight damages your skin,²⁵⁰ and creates free radicals that cause further ageing. You have had too much sun if your skin goes a little red, or feels uncomfortable with a slight stinging, dry or windblown effect. *A deep tan is not healthy* – it is a sign that you have had too much sun and that your skin is damaged. If you want proof that the sun is a major cause of skin ageing, compare the skin on the outer side of your arm with the skin under your armpit. For most people living in sunny climates, the exposed skin looks older.

Two out of three Australians will develop some type of skin cancer during their lives. Most of these cancers are not malignant, but they are still an indication of the level of sun damage that occurs to the average person's skin. A single day of severe, blistering sunburn can cause the development of a cancer between two and twenty years later. Repeated mild burning over the years can achieve the same effect. Sunburn speeds up the metastasis of any existing cancer cells.²⁵⁰

Harsh sunlight can damage your eyes, clouding the clear lenses and eventually causing cataracts, macular and other retinal degeneration. A high level of free radicals from too much sun damages your immune system, making you susceptible to a wide range of infections, skin cancers and rheumatic problems, especially in older people. Herpes sufferers have long known of the association between over-exposure to sun and the outbreak of sores.

Artificial light. Full-spectrum light contains all the wavelengths of natural sunlight. Ordinary light bulbs have a deficient spectrum compared to sunlight. Fluorescent light and television screens are not only deficient, but also vibrate erratically. They irritate your pituitary gland and the central nervous system. Several studies have shown that when fluorescent lights were replaced with full-spectrum lights, the abnormal

behaviour patterns and learning impediments exhibited by some children disappeared.

Sunscreens. [I do not use sunscreens](#). Firstly, I do not understand the chemicals they contain, and choose not to rub them into my skin. Zinc oxide is OK to use as a sunblock on your skin, but I have heard too many stories about the cancer-causing and disease effects of other chemicals. Unfortunately, there is virtually no research in this area – who would ever sponsor it? The manufacturers of sunscreens prefer to suppress this kind of information.

There are three main kinds of skin cancer: basal cell, squamous cell, and malignant melanoma. Basal cell and squamous cell cancers are common, medically minor, and not usually counted in cancer statistics. They are caused primarily by ultraviolet-B light, the short wavelength light that causes sunburn and does not penetrate the skin deeply. Most sunscreens block the UV-B rays and help prevent sunburn and these minor cancers.

Ultraviolet-A radiation has a longer wavelength, and penetrates through the outer skin down to the melanocytes, the cells that become cancerous in melanoma cases. Most sunscreens (particularly the older formulas) are not effective at blocking it out. Melanomas are deadly, and used to be rare. In the developed world, their incidence increased dramatically in the 40 years up to 1990, though they have levelled out since then.¹⁰⁶

People can spend more time in the sun without seeming to get burned when they use sunscreens. Unfortunately, the ultraviolet-A radiation is still penetrating their skin in a large dose, and their natural early warning system (sunburn) has been blocked by the sunscreen.

AIR

AIR IONISATION

There are good scientific reasons to live on a mountain, near running water, or near the sea, aside from the beauty. People in such locations live longer, and it is not only because they are often far from

sources of pollution. Spend some time high up in the mountains, beside a waterfall, or walking on a beach breathing in air that has just blown off an unpolluted ocean and you will feel rejuvenated. Clear sunshine and a rainstorm have a similar effect. The energy in the air is quite tangible. It comes from negative ions – highly active molecular fragments, each of which carries a negative charge equivalent to one electron. If you breathe this air deeply and fully, it will heal, restore and re-energise your body.

Atmospheric negative-ion energy, along with the ionic energy extracted from your food, is the basis of all life and biological energy.

Air conditioning, central heating, and sealed, unventilated rooms or buildings neutralise the negative ions in the air. Electrical appliances, especially those using high voltages such as old-style CRT television sets and computer screens, can de-ionise the air. Most of us have experienced the exhaustion that comes from working in a heated, air-conditioned or sealed building, even if the work has not been physically demanding. The effect is worse if a number of people are crowded in the room. Cities and industrial areas, especially those suffering dust, fog, smog, haze or other air pollution, have the lowest levels of negative ions.

By contrast, people such as farmers who work outdoors in clean rural air can be physically active all day and still not feel exhausted. This is because of the high levels of negative ions in the clean country air.

Air molecules can be ionised with an electric charge. The sun's rays and the electric potential between the earth and the atmosphere ionises air molecules. Negative ions are air molecules with an extra electron. They are attracted upwards, towards the clouds in the sky. Positive ions are molecules with a missing electron. They are attracted toward the ground, and dissipate into the earth. Most of the remaining ions just above the earth are negative. See page 342 for more details on earthing or grounding.

Both positive and negative ions attach to pollutants or dust in the air.

This is nature's way of cleaning the air. Wherever the air is weakly ionised, it is dirtier. In highly polluted urban and industrialised areas, the

sun's rays do not get through strongly. The air is also ineffectively ionised in lowland areas, far from the sea. Pollution is a vicious circle – the more polluted is the air, the less able nature is to clean it. Polluted city air can contain about 500 positive ions for each negative ion. Clean air out in the country, by contrast, has roughly three negative ions for each positive ion.

The tissues that absorb most of the negative ion energy from the air are located in your nasal cavities. Your lungs and skin also take in this energy. The negative ions have a direct effect on your energy levels and all vital functions (immunity, digestion, circulatory and so on).

You can buy an air ioniser for your house or car. They generate negative ions, which clean the air, and are also reputed to make you feel good. The negative ions attach to pollen, dust and pollution, and then move to earth – the walls and floor of the room. More advanced models collect the dust by shooting out negative ions for about 10 seconds, and then change to a high plus voltage to attract back the negative ions, with the dust attached, into the unit's dust collector.

I have a major reservation with air ionisers, in that many or all of them produce ozone. It is a toxic chemical that masks and eliminates odours, making the air seem fresher and cleaner. However, ozone compromises your immune system, and may trigger asthma and respiratory diseases. It also impairs oxygen uptake and the production of energy in your body.

AIR POLLUTION

The air in today's cities is heavily polluted. It is not life giving or filled with healthy energy carried by negative ions. Instead, it impairs longevity and vitality.

Vehicle exhaust fumes are responsible for more than half the air pollution in both advanced and less developed cities throughout the world. Other major sources of pollution are industry, electricity generation, fires for cooking and heating, and refuse disposal. The major components of this pollution are carbon monoxide, sulphur oxides, hydrocarbons, particulate matter, and nitrogen oxides. Ozone is another pollutant, formed in a reaction from exhaust fumes. In the high atmosphere, it protects us from the sun's harmful rays, but it is a toxic substance to breathe.

At sea level, pristine air comprises 20% oxygen. In urban areas, where vehicles, heaters, power stations and other exhausts spew carbon dioxide and other gases into the atmosphere, the oxygen level falls to around 10%.⁵⁰ Trees and other vegetation are sparse, so there is little to correct the imbalance.

Air conditioning and central heating rob the air in closed buildings of vital negative-ion energy. Air pollutants such as motor-vehicle exhaust, smoke and industrial emissions have the same effect. They fill the air with heavy positive ions that negate the activity of negative ions. Unless you compensate for such dead air with internal energy practises such as yoga and deep breathing, or alternatively purchase an air ioniser, your immune system will be stressed, leaving you vulnerable to fatigue and infections.

The sick building syndrome is very real. It applies to offices, homes, aeroplanes, new cars and any other environments that may be under-ventilated, over-insulated and using new or complex construction materials. This dangerous air-tightening of buildings, particularly high rises and offices, has resulted from the owners looking for greater efficiencies in heating and air conditioning systems. At the same time, thousands of new chemicals have found their way into these airtight environments. The regular cleaning and maintenance of air conditioners is critical, and an easy task to ignore. The ultimate and widely publicised peak of air conditioning neglect is Legionnaires disease. This deadly airborne infection is usually caused by dirty air conditioning systems containing water that has been allowed to stagnate. When people die from Legionnaires, this tends to get the headlines. However, stagnant or polluted air in a building seems to be accepted because it is so difficult to make the connection between the bad air and subsequent illnesses.

If you choose to work or live in a building, a major consideration should be the quality of the air in it. Can you open the windows? Would you want to open the windows? Is it located downtown in a city, or near an industrial area or source of pollution?

Stoves, heaters and fireplaces emit carbon monoxide, nitrogen dioxide, benzpyrenes and other carcinogenic hydrocarbons and particulates. It is

essential that gas stoves and heaters be exhausted out of the room. An un-flued gas heater will make you tired and rob you of energy. In susceptible people, these heaters can cause chronic fatigue and depression.

Avoid room deodorisers and air fresheners. They merely mask odours, and add new pollutants to your immediate atmosphere.

Better ventilation can substantially reduce most indoor pollution problems. Studies comparing the health of workers in buildings with windows that can open with workers in buildings with sealed windows are quite startling. Those in the sealed window building suffered two to three times the levels of respiratory diseases and other complaints such as chronic fatigue, headaches, stuffy noses, sore throats and itchy eyes and noses.⁶⁷

The dangers of passive smoking have been well publicised. If you are sharing a room with a smoker, you raise your risk of cancer quite substantially, and accelerate your ageing. Numerous studies have shown that passive smoking raises your risk of heart disease, lung disease and cancer. Pregnant women will give birth to lower weight babies. Children of smokers have higher levels of respiratory illnesses.

OUT IN NATURE

THE OCEAN

The ocean is a rich soup of minerals and vital energy. All kinds of minerals flow back into the sea from the rivers – it is the ultimate depository. The surf continually enlivens and aerates the water. On page 108 I tell the story of a woman who has slowed her ageing by swimming in the cold ocean every day. Seawater, provided it is not polluted, is a boost to health and long life.

As you swim, your skin (and the odd gulp of water) is able to take in any elements that you may be lacking. This is why walking on the beach and

getting your feet wet in seawater is so healthy. It is a cure for many skin complaints such as eczema and fungal infections like athletes foot.

Your body is like a complex battery and walking barefoot on the beach or on the earth grounds it and has ionising effects. Walking barefoot massages the numerous nerve endings in your feet, and positively affects the functioning of your internal organs. The human body evolved with bare feet, not shoes. See page 342.

Most oceans are also cold. A regular swim, at least once a week, but possibly daily, subjects your body to healthy stresses, and boosts your immune system and resistance to diseases.

If you live far from the ocean, and cannot access it regularly, a clean, fresh mountain stream or unpolluted river is a good substitute. It is important that the water is alive and moving, not dead or stagnant. Ideally, it should have flowed over waterfalls and rapids, aerating and enlivening it. As proof that it is alive, an abundance of plant life, fish and animals should be living in that water. What is good for nature is good for you.

Note: swimming in a chlorinated swimming pool is not recommended. The chlorine enters your body through your skin, and the gas sits just above the surface of the water where you breathe it in.

TREES, FOREST

Trees are an important connection with nature. They humidify, oxygenise and scent the air with their volatile oils and fragrance. They provide shade in summer, beauty throughout the year, the sound of rustling leaves, and provide a home for birds, insects and small animals.

Scientists have shown that living an indoor life is linked to an increase in attention deficit hyperactivity disorder and other mental ill-health. A study²³³ showed that children who regularly played among trees and grass had significantly lower levels of ADHD, while playing indoors or on tarmac increased them. Richard Louv suggests there “may be a set of symptoms aggravated by lack of exposure to nature”.²³⁴

Another study²³⁷ showed the subject's creativity and mental problem solving ability increased by 50% after four days out in nature and away from technology and information overload.

If you choose to live in or near a forest, you will enjoy all the above benefits, and something more. Trees have an energy that science has not yet defined. Embrace and hug a mature tree – it is both grounding and energising, especially if you are barefoot, and the tree and the earth are slightly damp. Do I hear sceptical sounds coming from your head? Try it!

VIEWS, PEACE

Have you ever thought about why panoramic views make you feel good? When you look out over the ocean, across a wide valley, at distant mountain peaks or with your eyes focused on the far distance, it is calming. When your eyes are completely relaxed they focus on infinity. If you live in a city, and think you have little opportunity to enjoy such vistas, stare at the moon or lie on your back and watch the clouds.

When our distant ancestors were located on the top of a hill and had a good view of their surroundings, they were safer, less likely to be attacked. There is something instinctively secure about living in a home that has a good view.

If you want to get to know the God within you, seek silence, solitude, space and nature. Yes, you can do it in the parks and viewpoints of a bustling city, but the majesty and peace of a mountain, forest or ocean make it easier.

LONG-LIFE SECRETS

BIOCOMPATIBLE DENTISTRY

Poor dental practises are responsible for the illnesses of millions of people around the world, primarily in rich developed countries. They are the cause of many degenerative diseases for several reasons.

Firstly, mercury fillings (the silver grey or black fillings that millions of people have in their mouths) are highly toxic. Mercury amalgam fillings are responsible for many serious and apparently chronic diseases (page 278).

The amount of mercury that goes into the average mercury amalgam tooth filling is sufficient to kill you if it was taken all at once. Approximately 50% of an amalgam filling is mercury. 25-30% is silver, and the remainder is usually zinc and tin. An amalgam filling can leak mercury vapour over many years, slowly making some (but not all) people sick with degenerative illnesses.

Conventional dentists have been taught that mercury is harmless in fillings. Few dentists are willing to question orthodoxy and go against the recommendations of their dental association. Therefore, you will have to search for dentists who use composite ceramic instead of mercury amalgam fillings. Happily, their numbers are expanding.

Composite ceramics will last for many years if the job is done correctly. They require more skill. If your dentist argues that composite fillings are too weak and short-lived to use, find another dentist. Today's composite and ceramic materials are tough and durable, and used properly they will outlast amalgam fillings. They look good – usually you can't tell that any dental work has been done. Most importantly, they don't slowly poison your body. I personally feel that a dentist who prefers to use the old mercury fillings should not be allowed to practise.

If your dentist wants to use a mercury amalgam filling, I suggest you ask him / her for a written and signed confirmation that it is safe and will not harm you. Watch their reaction!

Root canals, cavitations (see below) and tooth inserts usually harbour infections. These infections are not normally painful – you don't know that the infection is there. Instead, they provide a low level and ongoing source of bacteria and their toxic by-products entering your bloodstream. Year after year, your immune system has to fight the bacteria and their toxins coming from the base of a root-canalised tooth, from the cavitation left by an improperly removed tooth, or from the gap surrounding the post and false tooth of an insert drilled into your jaw. If you are young and healthy and have a strong immune system, you won't notice this assault on your body. But if you have had such an infection for years and your immune system is weak, it can be the frustrating and perplexing cause of numerous degenerative diseases.

The surface of a tooth (enamel) is the hardest part. Under the enamel, most of the tooth is made up of bone-like dentine. The dentine is made up of microscopic tubules that transport nutrients from the blood supply to all parts of the tooth. When a root canal is performed, these tubules remain intact and are not sterilised. Polymorphic bacteria colonise the tubules, gradually adapting to thrive without oxygen, and becoming smaller and more toxic.

Gum disease (gingivitis) and tooth decay (rotting teeth) are also correlated with these diseases. A strain of bacteria commonly found in tooth plaque has also been found in the atherosclerotic deposits that clog arteries. Tooth plaque, the sticky coat of bacteria and acids that eventually hardens into calculus or tartar, is a cause of gingivitis and tooth decay.

To slow your rate of ageing, help gain total health, prevent and heal tooth decay and gum disease and save your teeth:

- Clean your teeth properly. Bacteria build up in the space between your gums and teeth. This space is called the sulcus. It takes these sulcular

bacteria about 36 hours to build up a colony and secrete their acids, enzymes and other toxins that cause tooth decay and gum disease.

This means you only need to clean your teeth once a day. Proper cleaning takes several minutes. The only effective way to clean your teeth is the Charles C. Bass method.

Use a soft, bristled brush. Hold it at a 45° angle to the tooth and gums. Gently make a tiny wiggling movement to get the bristles down into the sulcus, the area between the tooth and gums. Once the bristles are in the sulcus, make a very small back-and-forth motion. Keep the movement very short, hardly more than a vibration, otherwise you will pull the bristles out of the sulcus. Do this for a few seconds, then move on to the next area to clean. Clean both sides of each tooth this way.

To clean the smaller teeth in the front of your mouth, place your brush across them to work the bristles into the sulcus.

Flossing your teeth is also an essential part of your daily cleaning routine. If you have not flossed before, it takes a while to learn how to do it properly. Take about 60 cm / 24" of floss and wind it several times round the index finger of each hand. You want a taught length of floss 5-10 cm / 2-4" long to work between the teeth. Work it between each pair of teeth, and then gently move it up and down the concealed sides of each tooth.

After you have flossed a tooth or two, re-wind the floss on your fingers so the next length of unused floss is ready to use.

When you first start flossing and cleaning this way, your gums may bleed. This is quite normal if your gums are infected. As your gums heal, the bleeding will stop.

- Eliminate sugar. If you are consuming sugar, plaque will build up on your teeth. Sugar is also the favourite food of the sulcular bacteria that lurk in the sulcus, the area between your teeth and gums.

People who never have sugar or refined flour from the youngest age (as in many traditional societies) often keep a full and healthy set of teeth all their lives.

- Minimal dental treatment. Most conventional dental work (see below) leads to the death of the tooth and an ongoing source of infection or toxins in your body. It is preferable to have a tooth (PROPERLY) removed rather than suffer a root canal, bridge or insert.

- Other factors such as hydration, diet and exercise discussed in *Grow Youthful* will ensure that you have sweet breath, healthy gums and minimal ongoing deterioration of your teeth.

If you are in the unfortunate position of having a painful infection or abscess deep in a tooth's root, you are likely to agree gratefully to the root canal that most conventional dentists will recommend. However, I have three friends who have refused root canals and successfully eliminated tooth infections with colloidal silver. Garlic may be [even more effective](#). If the infection cannot be controlled, the better (and cheaper) solution is often the full and proper removal of the tooth. Yes, it means having a gap in your teeth. A bridge, which many dentists will suggest, will substantially shorten the life of the two surrounding teeth.

Biocompatible dentists:

- do NOT recommend mercury amalgam fillings.
- do NOT recommend root canals.
- do NOT recommend bridges.
- do NOT recommend inserts (a metal post drilled into the jawbone, and used as a base for a false tooth).
- acknowledge the debilitating effect on your health and the death of your teeth from the above four procedures.
- are very reluctant to do crowns, and acknowledge that a crown is the beginning of the end of a tooth. Instead, they would recommend an inlay or an onlay.

- are competent with bonding, and use bonding and veneering techniques in preference to traditional fillings.
- have experience removing mercury fillings and are aware of the toxicity of mercury vapour when removing mercury fillings, and would use a dental dam.
- have experience with performing extractions without leaving cavitations (alveolar cavitational osteopathosis) i.e. holes left from incompletely extracted teeth which never heal properly, don't fill with bone, and remain as an ongoing source of infection, often for the rest of your life). The removal of a root-canalled tooth has a special protocol – the periodontal ligament should be removed, along with 1 mm of the bone socket, using a burr. A saline solution is used to wash out the chips.
- have good teeth themselves. They are familiar with the Charles C. Bass method of teeth cleaning, use it themselves and recommend it to their patients.

I recommend Bernard Jerome's book *Tooth Truth*⁹⁰ for more detail and explanation. Another excellent source of dental information is Jim Maxey's website www.dentalconfessions.com.

BORAX

What is borax?

What if I said to you that arthritis is easy to prevent and cure? That osteoporosis is completely unnecessary? That Dupuytren's disease has a simple remedy? That a powerful and effective fungicide, anti-viral and anti-microbial is easily and cheaply available? That your hormones can be normalised and your brain enhanced by a naturally-occurring product that we have been led to fear?

Borax is yet another powerful remedy and preventative that has been subject to a multi-decade smear and fear campaign by the

pharmaceutical industry. The reason - it is just too cheap and too effective.

Borax (sodium tetraborate hexahydrate or sodium borate) is a naturally-occurring mineral composed of sodium, boron, oxygen and water. Borax is commonly mined from dried salt lakes, and has been used as a remedy for numerous ailments for over 4000 years. It is found in large quantities California in the Western United States, in Mediterranean countries, Kazakhstan, and the Tibet region of China. Turkey is one of the largest commercial producers of borates.

Borax is cheap, costing a few dollars for a kilo if available in a supermarket. Borax is the most effective and practical way to supplement boron.

Boron is a mineral that we need in our diet. Boron is derived mainly from vegetables, fruits, nuts and legumes. Fifty or more years ago most people got many times more boron from their food than they do today. The modern diet causes a severe deficiency of boron, with disastrous health consequences.

Why is borax discredited?

Borax is such a potent and effective remedy that it deserves to be widely used and should be in every home. It is so cheap and so effective that pharmaceutical companies have done their utmost to discredit it. They have managed to get it completely banned in Europe. In America and Australia it is banned for therapeutic use, but is still available in the laundry section of supermarkets. In those countries where pharmaceutical companies find it harder to lobby (bribe, threaten and lie to) lawmakers and regulatory agencies, borax is widely acknowledged and used. For example, in China, Japan, Turkey and Russia it is used to treat many of the ailments listed below.

If the Western population knew about borax, and if doctors were allowed to prescribe it, the pharmaceutical industry would be decimated, health care revenues would plummet, and the most profitable part of health care, looking after elderly, weak-boned patients, would disappear. The

huge pharmaceutical and medical industries are doing everything they can to discredit and smear this amazing remedy.

Where to get borax

All borax is mined, there is no synthetic borax. "Food-grade" borax is not available or necessary. Borax is usually sold as agricultural or household grade and is 99% to 99.5% pure. Any impurities come from the mining and distribution, and include calcium, chloride, bicarbonate, carbonate, sulphate, potassium, sodium, and phosphates, but not toxic compounds or heavy metals.

In Australia, New Zealand and the USA you can buy borax in the laundry and cleaning section of your supermarket. Brand Names: Boraxo (USA, Mexico), Hovex, Pascoes, Bare Essentials (Australia). I have heard that 20 Mule Team (USA) is now scented - if it has an added smell, it is obviously not pure.

In Europe (except for Switzerland) the pharmaceutical companies have deceptively managed to get borax and boric acid classified as reproductive poisons. Borax can still be ordered online from eBay and other sites in the UK and shipped to other EU countries.

You can also buy boron tablets online.

You may be concerned about the warnings on borax containers and some of what you read on the internet. However, borax is less toxic than sodium chloride (salt). See Toxicity below.

Boron deficiency

Most people are severely deficient. Because of the hostility of the pharmaceutical industry, there is a scarcity of research on the beneficial effects of boron and exactly how much we need for good health. One paper³⁸⁰ concluded that humans need a minimum of 0.5 - 1.0 mg of boron per day to function properly, but for optimal health the level is much higher. An ongoing maintenance dose of 3 to 6 mg may be used for general good health and the prevention of ailments.

Most people in developed countries only get between 1-2 mg of boron per day, with few people getting more than 7 mg of boron per day on a modern diet. Institutionalized patients may receive only 0.25 mg daily.

The deficiency is worse for people living in areas where there is little or no boron in the soil. Chemical fertilisers inhibit the extraction of boron from the soil, so conventionally-grown fruit and vegetables are low in boron. For example, a conventional apple grown in fertilised soil may contain 1 mg of boron. In contrast, an organic apple grown in boron-rich soils may have 20 mg of boron. The traditional French diet provides about 36 mg of boron per day, and most other traditional diets using naturally-grown (no chemical fertiliser) fruits and vegetables deliver a similar amount of boron.

Our boron intake is a small fraction of what it was 50 to 100 years ago. In addition, traditional cooking methods save the water used for boiling vegetables, whereas modern cooking discards the boron-containing water. The widespread use of grains, cereals and legumes reduce the absorption of minerals, as does gluten sensitivity and candida overgrowth. Ailments caused by boron deficiency now common.

Good drinking water can contain up to 3 mg of boron per litre, but most municipal water contains negligible boron. In boron-rich regions of Turkey, the water can contain 29 mg of boron per litre or even higher.³⁹⁰ Rather than suffering any ill effects, the population seem to benefit from their high intake of boron.

Borax healing and preventative properties

- Stabiliser of calcium, copper and magnesium levels, inhibits calcification.³⁸⁰ Boron sufficiency normalises calcium levels, preventing both abnormal calcium deposition and bone weakness.^{380,381,382} Boron sufficiency inhibits the concentration of copper in the bones³⁸⁰ and prevents loss of bone.³⁸¹
- Anti-microbial. Borax is toxic to insects, parasites, protozoa and bacteria.
- Fungicide. Effective against moulds and fungi, internally and externally.^{385,386}

- Anti-viral.
- Hormone normaliser. Stimulates the production of hormones, stabilises estrogen,^{381,384} assists with insulin use and blood glucose control, triglyceride use and production of reactive oxygen. With boron sufficiency, blood serum triglyceride levels are significantly lower.³⁸⁰
- Aphrodisiac for men and women. See low libido. Boron stimulates the production of testosterone^{382,384} and normalises oestrogen.
- Immune system enhancer.³⁸⁰ Promotes healing of wounds.³⁸²
- Inflammation. Reduction and control of inflammation.^{382,384}
- Fluorides and skeletal fluorosis. Borax protects against the accumulation of fluorides in the body; is effective as an antidote for fluoride toxicity; and can remove fluorides from the body.
^{369,370,371,372,373,388}
- Toxin removal. Chelator / protection from heavy metals.³⁷⁶
- Mental enhancement. Improves attention, both short and long term memory, perception, hand-eye coordination, and manual dexterity.
^{380,382}
- Anti-coagulant and anti-neoplastic agents both in vitro and in vivo in animals.³⁸²

Borax as a remedy

Borax has successfully been used as a remedy for a variety of ailments.
^{375,377,378,380,381,382,383,384} You can use it for both prevention and treatment.

Rheumatoid arthritis. This is an inflammatory autoimmune disease whereby the body attacks its own joints, causing degeneration and deformity. It is more common in women, and can occur at any age. Often it develops into osteoarthritis. Work by Prof Roger Wyburn-Mason identified an amoeba in the joint as the cause in certain susceptible people. Boron is an effective control and cure.^{382,383}

Osteoarthritis is a wearing away of the joints, particularly those that have been subject to trauma, infection or over-use when injured. It is more common in men. The cartilage or tough fibrous matter around the joint wears away and the bones rub against each other, causing pain and further permanent damage to the joint.^{382,383}

Osteoporosis (decalcification of the bones) or osteopenia.^{380,381,382}

Other bone and connective tissue diseases such as Dupuytren's disease.

Blood lipid disorders (hypertension/high blood pressure, arterial diseases).^{380,381}

Obesity. Assisting with getting hormones back in balance, after getting over any sugar addiction and back onto a healthy diet.

Cancer.^{374,382,387} In particular, boron may be a preventative and treatment for prostate cancer.

Swollen gums or loose teeth (pyorrhoea). This is a bit like arthritis of the teeth and gums.

Antiseptic. Very effective for bladder infection and urinary tract infection (UTI).³⁸⁵ Boron inhibits the formation of bacterial biofilms. For other infections apply topically or take internally diluted to the recommended dose. Borax should be used as a first treatment for virtually all infections.

Spondylitis (arthritis of the spine with inflammation in the joints). Calcium is lost from the spinal vertebrae, leading to fusion and disc degeneration. Spondylitis responds to mineral treatments, particularly boron.

Gout. Boron is an effective remedy.

Systemic lupus erythematosus.

Numerous other ailments for which borax's properties (see above) may apply.

How to use borax

Do not take high doses of borax for a long period without breaks, because borax acts as an antagonist to zinc and vitamin B6, among other nutrients. Always start with a lower dose and gradually increase to your intended maximum. Take the maximum amounts for 4 or 5 days a week as long as required, with no borax on the other days. *Do not take borax for more than 10 days without a break.* If taking high dose borax for months, then reduce the maximum dose for one week each month to a minimum dose. In summary, if you are taking borax in a high dose, you need to periodically alternate between a low dose and your maximum dose in a different rhythm.

Dissolve a lightly rounded teaspoon of borax (5-6 grams) in 1 litre of water. This is your borax concentrate.

One teaspoon of this concentrate (5 ml) provides a dose of about 3 mg of boron.

Take this concentrate mixed with water, some other drink, or food. Borax is alkaline and in higher concentrations has a soapy taste. It is OK to neutralise it with lemon juice, vinegar or ascorbic acid if you prefer. Spread out each dose across the day; do not take them all together.

Optimal health, no specific problem. Start with one dose per day, and after a few days if that feels good then take a second dose at a different meal each day. You can continue indefinitely with one or two doses per day.

Arthritis, osteoporosis, muscle cramps, joint pain or stiffness, low hormone production. Take 3 or more doses per day for several months or longer until your ailment has sufficiently improved. Then drop back to 1 or 2 doses per day.

Fungal infections including candida, mycoplasmas, removing fluoride from the body. Take 100 ml of the concentrated solution per day. Mix it with other drinks or food, and space it out over the whole day. This will

provide a dose of about 70 mg of boron per day. In severe cases, overweight adults may take up to twice this dose (but not smaller adults).

Always start with a low dose and gradually increase it. Take regular breaks from the full dose, either taking the full dose 4 or 5 days per week as long as required, or going back down to the maintenance dose for one week each month.

Vaginal thrush. Fill a dissolvable (gelatine) capsule with borax and insert it in the vagina when retiring to bed. Continue for one to two weeks.

Sore throat, hoarseness. Dissolve 1 teaspoon of sea salt and 1 teaspoon of borax in half a litre of warm water. Use as a gargle.

Toenail fungus, athlete's foot, jock itch. Wet the affected skin and gently rub in borax powder. Dry with a towel but try to leave some powder on the skin before putting on a sock or dressing.

Saturate water with borax crystals (keep stirring them into water until no more dissolve). Apply the borax solution to the problem areas on the skin.

Apply the solution to the skin, and leave it on without rinsing. It tends to cause drying, so you may want to add aloe vera, jojoba oil or lavender oil later.

Interestingly, dog mange is caused by demodex mites and the effective treatment is 1% hydrogen peroxide and borax saturated solution applied topically.

Notes on using borax

Boron compounds are rapidly and nearly completely excreted in the urine, so it is necessary to spread the boron supplement over each day for full effect.

Drink plenty of water when using borax supplementation, especially when taking a high dose to remove calcification or fluorides. Using organic acids such as lemon juice or apple cider vinegar to assist with their removal. Get sufficient exercise to assist with lymph flow – walking, rebounding and inverted positions are all good.

The boron content of borax is 11.3% while for boric acid it is 17.5% or about 50% higher. So if you use boric acid, use about two thirds of the dose of borax.

Borax is absorbed through the skin and mucous membranes. If you decide to add borax to your bath, carefully measure the quantity you add to the bath, because an excessive quantity can readily be taken up through your skin in a strong solution.

A solution of borax is strongly alkaline with a pH between 9 and 10 (pH 7 is neutral).

When ingested, borax reacts with hydrochloric acid in the stomach to form boric acid and sodium chloride.

When you consume borax it seems to work synergistically with magnesium, so keep your magnesium intake up whilst taking borax.

See how visitors to the [Grow Youthful website](#) have used borax to treat arthritis and other ailments. Contribute your own experience.

Boron and ageing

Boron deficiency causes a loss of calcium and magnesium. This loss of calcium is mainly from the bones and teeth, so boron deficiency may be the most important factor in causing osteoporosis and tooth decay. A borax supplement can quickly halve the daily loss of calcium in the urine.

About 99% of the calcium in your body is in the bones, with the remainder in extra-cellular fluids. With boron deficiency too much calcium moves into the cells while magnesium does not work properly to displace it. If calcium starts to accumulate inside cells or anywhere other than in the bones, this causes problems. Most of these problems occur over a significant period, and are typically the diseases of ageing. The underlying cause is a deficiency of boron.

Symptoms of calcium accumulation and ageing:

- Muscle cramps, joint stiffness.

- Poor blood and lymph circulation.
- Nerve cells can also accumulate calcium, leading to a wide range of brain, mental, psychological and nerve transmission disorders.
- Cataracts in the eyes.
- Reduced hormonal output as endocrine glands calcify. Low production of hormones, particularly steroidal hormones, may cause low energy, tiredness, anger and depression, poor sexual function, digestive problems and numerous other ailments often diagnosed as adrenal exhaustion or just ageing.
- Intracellular magnesium deficiency. Magnesium is needed in the reactions of countless enzymes, and a deficiency leads to reduced energy production and healing.
- Calcium excess damages cell membranes and makes it difficult for nutrients to move in to the cell and wastes to move out.

Most people get sufficient calcium, especially if they have a diet with some leafy greens and bone broth. Older people with aching joints and bones have plenty of calcium, except that it is stored in soft tissues where it does not belong! Supplementing with calcium can be quite harmful, and the tendency of doctors to focus on a high calcium intake is a prescription for accelerated aging. Instead, supplementing with boron and magnesium will redeposit this misplaced calcium back into the bones.

Young people in good health have a calcium to magnesium ratio of 2:1. However, with increasing age and the above common symptoms of calcium accumulation around the body, we need progressively less calcium and more magnesium. The key to lowering this ratio is boron supplementation.

Sufficient magnesium is also required for boron to be fully effective in reversing tissue calcification. Older people and those with calcium accumulation problems should get 400 to 800 mg of magnesium with their daily borax supplement.

Side effects

Pharmaceutical drugs almost always have serious and horrible side-effects. In contrast, natural medicines such as borax only have beneficial long-term effects. However, borax is so powerful that it sometimes causes a Herxheimer reaction. This is a reaction to endotoxins released by the death of harmful organisms within the body. It is most common when eliminating candida fungal infection, but also occurs when other types of micro-organisms die off. This reaction may be the cause of pain or discomfort in the digestive system when starting borax supplementation.

Excess calcium in muscle and joint cells can cause cramps or spasms. Boron, especially together with magnesium, can provide rapid relief. However, with long-standing severe calcification it takes time to redistribute and remove the large amount of calcium. The movement of calcium in the affected area can cause problems with the blood circulation, nerve transmission, further cramping and pain, or reduced sensitivity in the skin. Increased levels of calcium and fluoride passing through the kidneys may cause temporary kidney pain. Sometimes boron may cause the release of kidney stones, which may cause pain for a few days.

The key to minimising the negative effects of healing reactions is to start with low levels of borax and increase the levels only gradually. If an unpleasant healing effect occurs, reduce or temporarily stop the borax until the problem subsides. Then gradually start increasing again.

Borax toxicity

We only need very small quantities of boron for good health and to prevent diseases such as arthritis. In large quantities boron has adverse effects, the same as any other compound.

Borax and boric acid have very low toxicity. Borax's LD50 (median lethal dose) score is 2.66 g/kg in rats, and boric acid is similar.³⁷⁹ To put it in perspective, table salt is only slightly less toxic with an LD50 of 3.75 g/kg in rats according to the Merck Index.

Here is a Material Safety Data Sheet (MSDS) for borax and for table salt obtained from the same company.³⁸⁹ Compare the Toxicological Information and Health Hazard Data on the two sheets. You will see that table salt (sodium chloride) is 50-100% more toxic than borax! You will also see that the references they use to imply that borax has effects on fertility require absurdly high doses, and at those doses the studies are still not conclusive.

It is likely that toxicity symptoms will develop only after taking several grams (thousand mg) per day for several months. Signs of boron toxicity are diarrhoea, lethargy, nausea and vomiting. Excess boron can worsen or trigger conditions like ADHD, allergies, asthma, autism, cystic fibrosis, dermatitis, dyslexia, liver and oesophageal cancer. Excessively high doses of boron tend to increase the blood levels of calcium and oestrogen, and lower blood glucose, vitamin B6 and zinc.

Human studies of the possible association between impaired fertility and high boron levels in water, soil and dust in Turkish populations, and boron mining and processing workers, found no effect. One study even reported elevated fertility rates in borax production workers as compared to the U.S. national average. Borax has been mined in Turkey for 150 years, and studies of the miners and those who live close to the mines have shown no harm from the high concentrations of borax in their food, water and environment, just the opposite – that boron has many beneficial health effects.³⁹⁰

IODINE

INTRODUCTION

Do you often feel tired, and have low energy? Do you have muscular and skeletal aches and pains, brain fog or feel unenthusiastic or depressed? Do you have a variety of allergies or intolerances? Are you prone to fungal and other infections? Digestion not what it used to be?

There is a good chance that you are iodine- deficient. Medical and scientific research tends to focus on those diseases that are caused by a critical shortage of iodine (goitre, cretinism and hypothyroidism). However, diseases that are caused by a less severe iodine deficiency are not just common - they are endemic.

A century ago, iodine was called the universal medicine, and was used to treat a wide variety of conditions and ailments.^{159,162,163,167,168} Iodine deficiency affects much more than the thyroid. For example, iodine supplements have been used to successfully treat cystic fibrosis.¹⁶³

Pressure from pharmaceutical companies and other commercial interests has led to the deliberate discrediting of iodine as a supplement. The recommended daily intake (RDA) for iodine has been set at a level that will prevent goitre, but is well short of the level required for good health. In fact, if you get no more than the RDA of 150 mcg per day, you will be severely deficient.

In Australia and New Zealand, iodine deficiency at the (low) RDA level is a widespread problem in the general population. A dietary survey conducted in 2008 by the national food regulator (FSANZ) found that 43 per cent of Australians don't even get the low RDA level. 70 per cent of women of child-bearing age and about 10 per cent of children between the ages of two and three did not even meet the RDA.

REASONS FOR IODINE DEFICIENCY

- Iodine deficient soil. Australia, India and several African and European countries have geographical areas of severe iodine deficiency. They are usually located long distances from the sea. Deficiency may also be caused by erosion, desertification and soil overuse.
- Food sourced from inland areas with no access to sea-sourced foods. This particularly applies to poor people who cannot afford fish or seaweed in their diets.
- Eating a modern diet, high in processed foods. Iodine is usually added to salt in rich countries, and sometimes to other foods such as

milk and breakfast cereals. However, the tiny amount of iodine added is insufficient for good health, being merely enough to prevent goitre.

- Health diets. Many so-called healthy diets are very low in iodine. If you are a vegetarian you are at high risk. Sea salt contains virtually no iodine. If you (sensibly) avoid processed salt and other processed foods, it is essential to eat plenty of kelp / kombu, or to supplement iodine.

- Goitrogens. Goitrogens are substances that prevent the uptake of iodine by the thyroid gland, and uptake in the rest of the body. Our exposure to goitrogens is much higher than 50 or more years ago. Their primary effect is suppressed thyroid function. Grasses are some of the most potent goitrogens, such as millet (grass seed) and bamboo shoots. The two main food categories of goitrogens are cruciferous vegetables and soybeans. Crucifers include broccoli, cabbage, cauliflower, Brussels sprouts, mustard, rutabagas, kohlrabi and turnips. Soy foods include soymilk, tofu, tempeh and TVP. Other goitrogenic foods include peach, strawberry, peanut and spinach. Goitrogens are also prevalent as halogens in the water supply and environment. Fluorides are added to the water supply, toothpaste and some medications in some countries, in the mistaken belief that they strengthen teeth. Research shows that fluorides lead to behavioural disorders, hypothyroidism,⁴⁴⁹ hip fractures, bone cancer and kidney damage. Bromine is used as a fire retardant, in carpets and clothing, in the preparation of white baking flour, as an antibacterial agent, as a fumigant and pesticide, in the manufacture of many carbonated soft drinks (soda) and sports drinks, and in some pharmaceuticals. Chlorine is added to drinking water as a disinfectant and has been linked to heart disease and cancer.

SYMPTOMS OF IODINE DEFICIENCY

- Severe deficiency of the essential trace element iodine causes goitre - a swelling of the thyroid gland. Long-term deficiency causes cretinism - stunted growth, mental retardation and many other health problems. The introduction of iodised salt in the early 1900s, and the addition of iodine compounds to other foodstuffs such as flour and milk has reduced the incidence of severe iodine deficiency (goitre) in many affluent countries. However, few people get enough iodine for optimal or even good health. Goitre-producing iodine deficiency is still a

problem in many parts of the world, particularly in poorer nations and places where there is little iodine in the local food.

- Fibromyalgia. This is the classic ailment presenting a variety of the symptoms listed below, and caused primarily by an excess of fluorides and other goitrogens in the body.
- Glandular and hormonal problems. With insufficient iodine the thyroid gland causes autoimmune thyroid diseases such as Hashimoto's disease and Graves' disease. An increased incidence of anti-thyroid antibodies may lead to subclinical infections, gluten intolerance, and mercury or food allergies.
- Fatigue - iodine deficiency can cause abnormal pituitary-adrenal function as well as low thyroid function.
- General aches and pains, most noticeable in muscles and joints.
- Ongoing subclinical infections from a compromised immune system. Iodine plays a role in protecting against bacteria, fungi and protozoa. Fungal infections such as candida/thrush, tinea, nail infections, bacterial and protozoan infections in the gut, and a variety of other chronic infections.
- Build-up of fluorides, bromides and heavy metals (mercury, cadmium, lead). Iodine is one of a group of similar elements (halogens) including bromine, chlorine and fluorine. Halogens compete with each other in the body, particularly in the thyroid gland. Unfortunately bromine, chlorine and fluorine are toxic. When there is a deficiency of iodine, the other halogens build-up, causing hypothyroidism.⁴⁴⁹ Most of us are deficient in iodine and in a constant state of halogen toxicity. The good news is that when sufficient iodine is present, the other halogens are excreted from the body, along with other toxic heavy metals such as mercury, cadmium and lead.
- Irregular mood or metabolism.
- Reduced intelligence in infants and children.¹⁶¹ A reduction of up to 15-20 IQ points, even when no other symptoms are present. Sufficient iodine is essential during pregnancy and lactation.

- Iodine assists with antioxidant activity. A lack manifests in faster aging and higher levels of disease.
- Iodine is necessary for healthy breast and ovary tissue. Breast cancer, ovarian cysts (polycystic ovarian disease) and fibrocystic breast disease (painful breasts with nodules and cysts that are more symptomatic prior to menstrual periods). Fibrocystic disease often reverses with sufficient iodine replacement. Iodine is also effective at eliminating ovarian cysts. This is because of its effect of normalising estrogens.
- Heart and arterial diseases. Lipoprotein is a sticky substance as that produces arterial plaques from blood platelets, calcium and fibrin. Sufficient iodine can reverse this lipoprotein build-up.
- Prostate disease.
- Dry skin with a decreased ability to sweat.
- Weak digestion and a variety of digestive problems. Lack of stomach digestive acid production (achlorhydria).
- Dry eyes.
- Dry mouth.

BENEFITS OF IODINE SUPPLEMENTATION

Here are some of the rapid benefits I enjoyed from iodine supplementation after being severely deficient:

- Feeling of wellbeing.
- Mental clarity and lifting of brain fog.
- Increased energy.
- Feeling warmer in cold environments.
- Needing less sleep.
- Disappearance of muscular aches and pains.
- Improved skin complexion.

- Regular bowel movements.
- Achieving more in less time.

IODINE AS A CHELATING AGENT

A study showed that after starting iodine supplementation, the levels of mercury, cadmium and lead measured in the urine of test subjects increased by several fold after just 24 hours.¹⁶² For aluminium, increased levels in the urine took a month or more to appear.¹⁶² Bromine and fluorine are also excreted at high levels,¹⁶⁴ and may result in cloudy urine for several months and body odour for one or two weeks. Bromine can take up to two years for full removal.¹⁶⁴

TESTS FOR IODINE DEFICIENCY

Iodine patch test. This is a quick, rough, simple and inexpensive test. Paint a 5 cm (2 inch) square of iodine tincture (such as Lugol's solution) onto your inner arm or thigh. If the stain disappears or almost disappears:

- In less than 5 hours, then you are almost certainly extremely deficient.
- In less than 10 hours, then you are probably deficient.
- In less than 24 hours, then you may be deficient.
- remains or only slightly lightens after 24 hours then your levels are considered normal.

You can repeat this test every couple of weeks to see when your iodine dose can be reduced.

Iodine urine test. Take 4 iodine tablets (12.5 mg each) or 8 drops of Lugol's solution in half a glass of water. You will need a laboratory or test kit to monitor the iodine in your urine during the next 24 hours. If you have sufficient iodine, 90% of the 50 mg dose will be excreted during the next 24 hours. If iodine is lacking the body retains most of it with little appearing in the urine.

SIDE EFFECTS & CONTRAINDICATIONS

Research ^{159,160} based on the experience of several thousand patients taking a high iodine dose for up to three years, has shown that approximately one-three per cent (1-3%) of them experience side effects. The side effects reported are:

- an unpleasant brassy taste.
- increased salivation and sneezing.
- headache in the frontal sinus.
- Insomnia. This only affects a few people. Some actually sleep better. Try not to take the iodine at night, rather, take the biggest part of the daily dose in the morning, and the remainder in the afternoon.
- acne-like skin lesions.
- Cloudy urine and body odour are temporary effects as halogens are excreted from your body. In severe cases, the chelation of halogens, aluminium and heavy metals can make you feel ill. In this case, lower the dose.
- In rare cases, often related to breast disease / cancer, breast milk can turn yellow as accumulated bromides are excreted.

The headaches and skin eruptions are probably caused by the release of stored toxins. During iodine supplementation, I recommend that you drink more water than usual to help remove the toxins being released. If any unacceptable side effects persist, simply reduce the iodine dose you are taking.

Do not supplement with iodine if you suffer from Hashimoto's disease or other autoimmune thyroid disorders, as additional iodine may stimulate an attack on the thyroid. Those with [symptoms of hyperthyroidism](#) should not supplement with iodine.

IODINE SOURCES

Kelp or kombu seaweed is the richest food-derived source of iodine. Other brown and red-coloured seaweeds contain lesser amounts of

iodine. Iodine from seaweed has good bio-availability. Kelp/Kombu 1500-2500 mcg/gm. Other seaweeds: hijiki 629, dulse 72, wakame 32, nori 16.

Other foods from the ocean provide iodine, particularly fish heads (they contain the fish's thyroid gland). Plants (particularly greens and sunflower seeds) are only a good source of iodine if they are grown in iodine-rich soils.

Iodised salt in the USA contains 100 mcg/gm. However, it is not recommended that you use [processed salt](#).

In 1829 Jean Lugol developed an iodine solution that carries his name (Lugol's solution). It was in widespread use until the 1940's and 1950's, and many doctors successfully used it as a universal medicine. By 1950 doctors had been taught to prescribe a variety of pharmaceutical drugs rather than the very cheap Lugol's solution, and there was an active campaign to discredit iodine because of its severe impact on pharmaceutical profits.

Lugol's solution consists of 5% iodine and 10% potassium iodide in distilled water. Pharmaceutical labelling laws require "poison" on the label, even though it is less toxic than virtually every pharmaceutical.

Lugol's solution is also available in tablet form under the name Iodoral. Iodoral tablets are not particularly expensive, but they still cost many times more than taking the same quantity of iodine in Lugol's liquid form. Liquid iodine drops are inexpensive!

Iodine has been used for many years as an antiseptic and disinfectant. It is rapidly absorbed through the skin. Lugol's solution may be used on the skin, though it does stain clothing, and it can sting when applied to open wounds.

Povidone iodine is a topical antiseptic, made from a mixture of polyvinylpyrrolidone (povidone or PVP) and elemental iodine. **Warning:** Povidone iodine should not be consumed (taken internally) because the PVP it contains is a toxic water-soluble polymer used as a wetting agent and stabiliser. A popular brand of povidone iodine is Betadine.

HOW MUCH IODINE?

The conventional Recommended Daily Allowance (RDA) for iodine is 150 mcg (micrograms) per day. Many credible researchers say that far larger doses are needed for optimal health, longevity and protection.

^{158,159,160,162,166,170} An examination of the iodine intake of the Japanese population led to the conclusion that the RDA is at least 100 (one hundred) times too low. ¹⁶² In addition, when iodine was widely used with such great success 50-100 years ago, the levels used were around one hundred times higher than the RDA. Sixty million Japanese consume about 14 mg per day of elemental iodine because of the high level of kelp in their diet. This is about 93 times the RDA. By many measures the Japanese are the world's healthiest nation, including wellbeing and cancer statistics. ^{161,162}

Start with one drop per day, mixed in a glass of water. Build-up to the doses shown below over a period of several weeks, depending on how you feel. If the iodine seems to have no effect on you after a few days, then gradually increase the dose to the high end of the values shown below.

- For optimal health and wellbeing, in situations where you are not ill or severely iodine deficient: take 0.1-0.3 ml or 2-6 drops of Lugol's solution or nascent iodine providing 12.5-37.5 mg of elemental iodine per day. This applies to non-obese patients on a non-goitrogenic diet, with normal ability to absorb iodine. After one to five years you can revert to a low maintenance dose (see below).
- For those suffering from severe iodine deficiency, or for recovery from a variety of degenerative diseases: take up to 10 drops per day. For most non-obese people on a non-goitrogenic diet, iodine sufficiency is reached after three months at this dose. ^{166,169} However, if there are a high level of goitrogens in your food or environment, or you are obese, or you have a poor ability to absorb iodine, this dose may be needed for a year or several years before iodine sufficiency is reached. To improve iodine absorption, see the section on Optimal iodine absorption below.
- Ongoing maintenance. This is the daily dose to take after iodine sufficiency is reached. For most adults, 2 drops of Lugol's solution or

nascent iodine providing 12.5 mg elemental iodine per day is sufficient. However, if iodine is completely deficient in your diet, or there are high levels of goitrogens in your food or environment, then a higher maintenance dose of up to 4 drops per day may be required.

OPTIMAL IODINE ABSORPTION

If you have sufficient iodine in your diet, your body will absorb it. When you reach iodine sufficiency, any excess is excreted in the urine.

There is a synergy between iodine and selenium, which means that if one consumes too little selenium, the body uses iodine inefficiently (and probably vice versa, though there is no research to show this). Of all foods, Brazil nuts contain the highest level of selenium. If you eat one Brazil nut per day, you may get sufficient selenium for good health, depending on the source of the nuts. It is not a good idea to eat more than a couple of Brazil nuts per day because they are high in radium and barium.

Tin, magnesium and vitamin C also assist with the absorption of iodine,¹⁶⁵ so I recommend using transdermal magnesium oil and a diet high in vitamin C whilst supplementing with iodine, especially if you don't seem to be experiencing any improvement.

APPLE CIDER VINEGAR

This traditional drink is an effective treatment for allergies, candida, arthritis, gout, acid reflux (heartburn), chronic fatigue, atherosclerosis, and infections such as sore throats, sinus, 'flu and acne. Apple cider vinegar (ACV) is THE cure for excruciating joint and muscle pain, fatigue and chronic upper respiratory infections. It relieves insect bites and some skin allergies, and curbs excessive appetite. It improves your skin and hair, is a powerful detoxifier and is the basis for several fountain of youth drinks.

ACV has anti-fungal, anti-bacterial, and anti-viral properties, primarily coming from the acetic acid and malic acid. It is rich in organic acids (including more than a dozen different carboxylic acids), vitamins, minerals, phytonutrients and apple pectin.

ACV helps to dissolve bacterial biofilms (as do other food acids such as lemon juice and sour liquid whey). This makes it an important remedy for persistent (chronic) infections.

ACV is effective at stopping many allergies, like those from pollen, dust, dander and food. Take it as a daily tonic, or at the first sign of an allergy such as a sinus headache, stuffy nose or itchy watery eyes. ACV can stop an allergic reaction within hours or days, depending upon how advanced it is.

You can also use ACV as a skin rinse. It will make your skin look younger, and helps those with eczema or psoriasis. Use two tablespoons of ACV in a glass of water or a cup of ACV in your bath.

Dosage. Mix two tablespoons (32 ml) of ACV in a 200 ml glass of water. You can take up to three glasses per day. Some people like to sip this mixture throughout the day; others drink the glass at once. Try to buy an organic, unpasteurised product.

You may be concerned about the effect of the ACV's acidity on your teeth. Ongoing acidity in the mouth can cause dentin sensitivity and erosion of the tooth enamel. The solution is to add baking soda (sodium bicarbonate) to the mix, approximately 1/4 of a teaspoon per two tablespoons of ACV, depending on the brand. The result should have a pH of between 6 and 7, according to your taste. Do not worry that the baking soda would make the ACV less effective, because the sodium bicarbonate stored in your body would do exactly the same thing soon after you drink it.

BUTYRIC ACID (BUTYRATE)

Butyric acid (BA) is a short chain fatty acid that does not taste and feel like other cooking fats and oils. Instead, its structure is closer to that of acetic acid (vinegar), an even shorter chain fatty acid. BA has a powerful and distinctive smell, that of human vomit. However, in small quantities in some foods such as parmesan cheese it is actually a very attractive smell. Traces of BA are even used to balance out some fine perfumes.

Butyric acid is found in dairy foods, with butter being the richest source at about 3-5%. In dairy products the BA content rises significantly with the fat content, and if they are fermented (as in milk kefir) or turned into a sharp cheese (particularly parmesan cheese). Traces of BA are also found in some other fermented foods such as kombucha, sauerkraut and kimchee. BA does not occur in fruits and vegetables in any significant quantity with the sole exception of the tropical fruit durian, prized by many Asian people. BA is responsible for the “smelly feet and vomit” smell of this wonderful fruit. I love durian, in case you had not guessed.

There are two main ways to get butyrate and other short-chain fatty acids. The first is to eat plenty of butter and fermented foods. The second is to eat starchy plant foods such as potatoes, sweet potatoes, tapioca and root vegetables such as parsnips and turnips. If you have a healthy biome of bacteria in your digestive tract and particularly in you colon then some of the anaerobic bacteria convert the soluble fibre and resistant starch that are present in undigested food into short-chain fatty acids including BA.

Clostridia bacteria producing butyric acid thrive on resistant starch (cooked, cooled potatoes and other starchy foods), pectin (a water soluble starch high in apples, blueberries, tomatoes), cellulose (high in squashes and stalk vegetables) and inulin (yam, onion, artichoke, banana). Many other anaerobic bacteria such as *Lactobacillus sanfrancisco* CB1 also generate butyric acid.³³⁵

A candida infection may inhibit production of BA because it upsets the balance of colonic bacteria.

Butyric acid's healing properties

Healing and calming the intestines.

BA can circumvent need for long elimination diet to identify allergy and intolerance-triggering foods, because it stimulates the rapid repair of the mucosal wall.^{419,420,422,423,426,428,430} BA works in several ways:

1. Butyrate heals a leaky gut. It reduces the inflammation of mucosal walls.^{331,332,414,418,430}
2. It seals and heals the holes in mucosal walls made by the penetration of the rhizoid roots formed in *candida albicans* overgrowth. These holes allow the seepage of undigested food particles through the walls. These food particles enter the bloodstream and set off the immune system, causing food sensitivities/intolerance/allergy. For best results, butyric acid can be used in conjunction with caprylic acid.
3. By stimulating epithelial sloughing in the intestinal tract, new attachment sites are created for favourable microorganisms and the re-creation of a healthy gut biome.

Short chain fatty acids heal and strengthen the intestine, repairing leaky gut, Crohn's disease²²⁴ and ulcerative colitis²²⁵, haemorrhoids⁴¹⁸ and protecting against bowel cancer.^{226,412,413,415,416,417,419,421,424,425,427,429} They soften faeces and relieve constipation.

Cancer prevention and healing

It has long been known that in compromised immune systems or cancer, undifferentiated cell growth can be inhibited by butyric acid.^{333,334} BA prevents cancer,^{338,339,412,413,415,416,417,419,421,424,425,427,429} may be used in the treatment of solid cancer tumours, and colon cancer.^{226,338} It triggers apoptosis (the self-destruction of old or damaged cells) in many other cancerous cells.^{337,413,424}

Insulin control and sensitivity

BA improves insulin sensitivity and protects against insulin resistance. It can be used for treatment for obesity, because short chain fatty acids prevent obesity by improving insulin sensitivity.²²³

Several studies have found that feeding mice BA reverses harmful metabolic affects. The mice which received butyric acid in their diet were leaner and did not have a tendency to overeat.³³⁶

Satiety

BA reduces the tendency to overeat.³⁹⁷ Those who are overweight or obese should take care to get sufficient resistant starch or BA in their diet.

Inflammation

BA inhibits inflammation.^{228,414,418,430} It binds to a receptor on immune cells, reducing inflammation. A study³³⁹ showed that some short-chain fatty acids bind to a gene that is expressed by our immune cells and functions as an anti-inflammatory receptor. This interaction between short-chain fatty acids and GPR43 proved to be essential for controlling inflammation, not only in the colon, but also in the lungs and joints. This may be the link between the increase in inflammatory diseases in Western societies compared to more traditional societies that eat high fibre and have a very low incidence of asthma, arthritis and colon cancers and diabetes.³⁴²

Energy

Short chain fatty acids are the most important source of energy for your body – more important than glucose from carbohydrates.²⁰⁷ This means that having sufficient (but not excessive) fibre in your diet and healthy gut bacteria is essential for good health and a high level of energy and brainpower.

BA stimulates mitochondrial function, helping with the body's strength, endurance, energy level and tolerance to cold.

Other benefits

BA synergies many therapies. It may be used for the treatment of Alzheimer's.³⁴⁰ It has been successfully used for the treatment of haematological and neurological pathologies.³⁴¹ Short chain fatty acids protect against degeneration of the brain and nerve function, including Huntington's disease.²²⁷

BA has anti-fungal and anti-mould properties.³³⁵ Short chain fatty acids assist with tissue healing and repair.

Short chain fatty acids lower blood insulin and triglyceride levels, reducing the risks of heart disease, diabetes and other diseases.

Why is BA not more widely used?

Why do most doctors not recommend BA? Why is it not produced in large quantities by pharmaceutical companies? There are two answers. First, the smell is offensive to most Western people. The strong smell is not offensive to other animals; it is simply that in modern society we have been habituated to avoid smells like that of vomit, faeces and smelly feet, even though the smells themselves are not the least bit harmful.

Secondly, there is no big money to be made from BA, it is too cheap, too simple, too effective and cannot be patented. Neither the medical profession nor the pharmaceutical industry have found it to be profitable.

PROBIOTICS

Throughout *Grow Youthful* I have emphasised the importance of maintaining a healthy gut biome. The microorganisms in the gut and particularly in the small intestine assist with good digestion; produce many nutrients; assist your immune system³⁹⁹; and help in many other essential roles.

You can promote a good range of bacteria and other microorganisms by:

- Avoiding antibiotics (page 274).
- Eating a diet which helps beneficial microorganisms thrive (page 68).

- Consuming cultured living foods and drinks (page131). They are natural probiotics that contain a wide range of bacteria and yeasts. These traditional home-cultures are more akin to a “wild” ecosystem than the narrow monoculture of one or two yeasts or bacteria that you typically find in a store-bought yogurt.

SAUERKRAUT

What is sauerkraut?

The daily use of living, fermented, acidic foods prolong life and are a secret to ongoing good health. Fermented vegetables and milk are rich in lactic acid, which inhibits the bacteria that cause putrefaction. Along with many other organic acids, lactic acid also greatly assists people with weak digestive systems (most people who are over 40).

Sauerkraut combines the health benefits of cabbage and other cruciferous vegetables with the probiotic advantages of the fermentation process. Cabbage and other vegetables turn into a superfood when pickled.

Humans have been eating pickled vegetables for thousands of years. As people first moved into the higher latitudes they needed to store food for the sparse, snow-covered winter months. Sauerkraut was a means of preserving cabbage and other vegetables for easy consumption throughout the winter. Historical evidence suggests that workers on the Great Wall of China ate a version of pickled cabbage 2,000 years ago.

Lacto-fermented vegetables (sauerkraut, kimchee) store virtually all the benefits of fresh vegetables for long periods. Captain James Cook always took a store of sauerkraut on his sea voyages, since experience had taught him it prevented scurvy among his crew.

Benefits of Sauerkraut

Sauerkraut provides a high-density source of a wide range of beneficial live lactic acid bacteria which assist in the digestive process, produce a variety of vitamins and other nutrients, and keep harmful micro-

organisms at bay. A single serving of genuine raw sauerkraut gives your body a bigger health boost than any of the expensive probiotic drinks and supplements sold in stores.

Cruciferous vegetables (also known as Brassicaceae or Brassicas) include broccoli, brussels sprouts, cabbage, cauliflower, collard, cress, horseradish, kale, kohlrabi, mustard greens, radish, rutabagas, turnip and watercress.

Cabbage, brussels sprouts and other brassicas offer a host of health benefits. They are high in vitamins A and C. Cabbage provides a rich source of antioxidants. Studies have shown that the cruciferous vegetables can help improve cholesterol levels; have anti-inflammatory properties; and help prevent and combat many cancers.

A phytonutrient in these vegetables named glucosinolate significantly enhances your liver's detoxification ability. According to one study,³⁹² eating these foods every day will halve your risk of getting cancer.

Some of the phytonutrients in this family seem to be able to protect mucous membranes, especially in the lungs and digestive tract. They are effective guardians against cancer, ulcers and infections in the digestive tract.

Sauerkraut must be raw

Most sauerkraut sold in supermarkets and shops is pasteurised. The beneficial bacteria and other organisms have been destroyed so that it has a long shelf life, and there is no risk of the jar exploding from pressure build-up. To gain the benefits from sauerkraut, it **MUST** be made the traditional way and consumed raw - best to learn how to make your own.

Risks with cruciferous vegetables

The main disadvantage of cruciferous vegetables is that they contain high levels of goitrogens. Goitrogens are substances that prevent the uptake of iodine by the thyroid gland, and iodine uptake in the rest of the body. Their primary effect is suppressed thyroid function. Our exposure to

numerous goitrogens in the environment and in our food is much higher than 50 or more years ago.

Fermenting does not reduce the level of goitrogens that cruciferous vegetables contain.

Cooking destroys most of the goitrogens in cruciferous vegetables. For example, steaming reduces the goitrogens in cabbage by about two thirds, and boiling cabbage for 30 minutes reduces the goitrogens by nearly 90%. *However, you must use raw ingredients to make sauerkraut.*

Fermented foods such as sauerkraut are wonderful in that they provide probiotics and bio-available nutrients. However, consuming large amounts of sauerkraut could actually be harmful to the function of your thyroid, especially if your thyroid is already compromised. I would advise you to monitor how you feel on a diet high in crucifer vegetables. For most people, moderation is the key. It is best to consume fermented cruciferous vegetables as condiments, not as a large part of your diet.

Sauerkraut is a wonderful, healthy food when consumed in moderation. To counteract the goitrogens in the cabbage, I add iodine-rich seaweed to my sauerkraut. I also include dill and juniper berries in my sauerkraut as they add a perfect complimentary flavour to the finished product.

How to make sauerkraut:

Ingredients:

2 large cabbages. Reserve 3-4 large leaves - enough to cover the surface of the brewing container

2 large onions

Optionally, other vegetables in season. I have also used hot peppers, carrots, beets, beetroot, caraway seeds, a wide variety of fresh herbs, radish, curry powder, ginger and garlic, all with great success

2 teaspoons of sea salt. Use more salt if you are not adding the whey below, less if you have a good raw milk kefir whey. The salt helps promote the lactic acid bacteria in competition with bad bacteria

1 cup filtered water. Use rejuvelac if available, otherwise filtered water

1 cup of sour liquid whey. If whey is not available, use 1 cup of lemon juice, or half a cup of vinegar, preferably apple-cider vinegar. White supermarket vinegar is a poor alternative. The clear liquid whey that forms as kefir or yogurt sours as it ages is by far the best starter, and will make a reliable and delicious sauerkraut by introducing plenty of lactic acid bacteria

2 tablespoons juniper berries (optional)

2 tablespoons seaweed such as wakame, kelp or dulse (optional)

Recipe:

Shred the cabbage and other vegetables in a food processor. Put the shredded vegetables in a large container or bucket with the other ingredients. Pound them with a pestle or wooden mallet for 10 minutes - long enough to release the juices.

Press the mash down. The liquids should just about cover the top of the mash. Put a large plate into the bucket that fits nicely and seals the top, and a heavy weight on top of it. Within a few hours, liquids should cover the top of the shredded mixture (if it did not cover to start with). If there is not enough cabbage juice, add cold filtered water with sour liquid whey / lemon juice / vinegar to cover.

Leave to ferment at room temperature for 3 - 5 days. Within 1 day the smell should start to change, and within 3 days the mixture should have a delicious aroma. After 2-3 days of lacto-fermentation, vegetables start to soften and some of their components break down. As lactic acid-producing bacteria proliferate, the food becomes more acidic and easily digestible. Micronutrients such as choline are formed, the entire medium is preserved, and new flavours and aromas develop.

Transfer to capped jars. Leave 2-3 cm / 1 inch at the top as they can bubble and leak. However, try not to expose it too much to the air, as making sauerkraut is an anaerobic process.

Sauerkraut may need to be stored in the refrigerator if you live in a hot climate, but most refrigerators are too cold to allow it to mature properly. The ideal storage is about the same as for a fine bottle of wine.

Sauerkraut needs at least six months to fully mature, depending on what it is made from; the best sauerkraut I have tasted was eighteen months old.

Yeasts and moulds

Kahm yeast. Sometimes a white, velvety or powdery looking yeast or scum develops on the surface. It is not harmful, but does not improve the flavour. If it develops, skim it off the surface of the liquid. Discard any solid matter that has it. As usual, your senses are the test - if it smells and tastes OK, it probably is.

Kahm yeast is likely to develop if:

- Your brew is insufficiently acid, especially when you start it.
- There is not enough salt.
- It is too warm.
- Over exposure to the air.
- From poor hygiene.

If black or blue mould forms, throw the brew away. It usually smells horrible, and you wouldn't want to eat it anyway. Mould forms for the above reasons, and also because there was not enough liquid - the solid matter is left exposed to the air and light, especially during the first few days before sufficient acidity builds up.

Only normal kitchen hygiene is required.

KOMBUCHA

A delicious youthning drink

Kombucha is a delicious healing and detoxifying drink that you can make yourself. Its cost is insignificant, as it is made from only a little tea and sugar. It has a reputation for healing hundreds of different ailments, and is renowned as an anti-ageing treatment and secret to retaining youthful looks. It is an effective chelator that removes heavy metals and a wide range of other toxins from your body. People who drink it seem to be healthier and younger-looking than the rest of the population.

Kombucha is a tonic, complete therapy and preventative medicine. You can drink it, applying it topically as a compress, add it to your bath, and make it into a cream that heals leg ulcers and fungal nail infections. I sometimes use it in cultured food recipes as a starter. You can use it with animals, and in the garden.

What is kombucha?

The mushroom or scoby (symbiotic culture of binary yeasts) is a jelly-like membrane that floats in a nutrient solution of tea and sugar exposed to oxygen. At the right temperature, it constantly grows. When you make a brew, it first spreads over the surface of the tea and then it thickens. It reproduces by a process of cylindrical binary fission, unlike other yeasts that reproduce with spores. The membrane is a symbiosis of yeast cells and different bacteria. The principle yeast is the tropical *schizo saccharomyces pombe*. Others varyingly include *saccharomyces ludwigii*, *torula* and *apiculatis* types, *pichia fermentans* and *mycoderma*. The principle bacteria include *bacterium xylinum*, *bacterium gluconicum*, *acetobacter ketogenum*, and *acetobacteria xylinium*, *brown xylinioides* and *acetobacteria pasteurianum*. There is some dispute as to what the kombucha mushroom is. Some microbiologists have argued that it is not a fungus, but a lichen. Others disagree, saying lichen is a symbiosis of algae and fungus and requires light to build chlorophyll by photosynthesis, a typical feature of algae. However, kombucha flourishes in the dark because it contains no algae components.

The kombucha culture transforms the sugar and tea into enzymes, vitamins and organic acids. The fermented mixture contains 0.5-1% alcohol, acetic acid, butyric acid, gluconic acid, glycuronic acid, L-lactic acid, carbonic acid, caprylic acid, citric acid, malic acid, usnic acid, vitamins B1, B2, B3, B6 and B12 and C, folate, amino acids, and other substances with antibiotic, antiseptic and detoxifying characteristics.

The kombucha culture does not break down the **caffeine** in the tea. If you want a low-caffeine kombucha, then make it with decaffeinated tea, green tea or other low-caffeine teas like oolong or kukicha (twig tea). They all work well – I often make mine with Gunpowder green tea. Similarly, kombucha does not break down the **oxalic acid** in the tea. This is yet another reason to use green tea, which has only 10-20% as much oxalic acid as black tea.

Benefits of kombucha

Most people feel better after a month of daily use, some much sooner. The first improvement is usually increased energy and better skin colour. Some serious disease conditions may take years to heal, depending on the person and other factors. I have read literally hundreds of enthusiastic emails from several kombucha email lists. People with difficult long-term illnesses such as arthritis, rheumatism, eczema, acne, allergies, chronic fatigue syndrome, digestive disorders, high blood pressure, poor circulation and cancer have found help with kombucha.

Stamina, energy. Kombucha is an excellent preventative and maintenance tonic, increasing your energy level. It will increase your stamina, and reduce muscle pain and fatigue. Some athletes requiring long endurance use it.

Probiotic. Kombucha encourages the growth of beneficial *bifida* bacteria in your intestines, particularly those that produce lactic acid. *Bifida* are similar to *acidophilus* bacteria, the active organisms in live yoghurt. Kombucha produces two organic acids, lactic acid and acetic acid, which accelerate this probiotic effect. Lactic acid is essential for healthy

digestive action, and for energy production by the liver. Acetic acid is an antiseptic and inhibitor of pathogenic bacteria.

You may be inclined to avoid kombucha if you suffer from *candida albicans*, because kombucha contains yeasts. However, the *schizo saccharomycoses* is a yeast that does not have spores and is therefore not in the family of candida, so it is antagonistic to the troublesome candida yeast that infects so many people. Candida sufferers have often found relief in taking kombucha - just make sure that all the sugar is fermented and it does not taste at all sweet. Gluconic acid strengthens the walls of the gut in order to combat yeast infections such as candida.

Kombucha helps with constipation, infectious diarrhoea, dysentery, digestion, nervous stomach, colitis, inflamed large and small intestines and ulcers.

Blood. Kombucha has blood thinning qualities. If you prick your finger and bleed too freely, you may be drinking too much. Reduce or stop drinking it a week before surgery. Similarly, if you suffer from heavy periods, stop taking kombucha a week beforehand.

Skin. Kombucha improves your skin elasticity, tone and colour. It acts as a humectant (moisturiser). Most people using it report a reduction of wrinkles, scarring, freckles, brown age spots and rashes. It has been used to treat psoriasis, eczema, acne, tropical ulcers, rashes, boils, warts, and many fungal infections like athletes foot and tinea (using creamed culture on the skin, dabbed on skin, or drinking the tea. It thickens your hair and helps with grey hair and balding. Kombucha speeds nail and hair growth.

Detoxifier. Glycuronic acid (GA) binds toxins in your liver, and makes them water-soluble. Your kidneys then eliminate these toxins in your urine. People starting to drink kombucha show traces of environmental toxins such as lead and mercury in their urine. It is one of the few agents that can cope with the poisonous products of the petroleum industry, including plastics, herbicides, pesticides and resins. It binds to phenols in the liver, which are then eliminated. Your intestines or urinary system cannot reabsorb toxins bound by GA. GA is also a building block for

connective tissue, cartilage, stomach lining, vitreous humour of the eye and heparin.

Another by-product of GA is glucosamine, used in the structures associated with cartilage, collagen and the fluids that lubricate the joints. Collagen reduces wrinkles, while arthritis sufferers have their deficient cartilage and joint fluids replenished.

Antibiotic. The antibiotic properties, primarily from the usnic acid, only develop after the 7th or 8th day. They also require a brewing temperature above 23°C. The acetic acid bacteria produced are strongly antagonistic to *streptococci*, *diplococci*, *flexner* and *shigella*.

Mental. Kombucha combats depression. When a kombucha website sent out a questionnaire to its members, 81% of over 400 respondents reported a feeling of wellbeing. Usually, they noticed this improvement within the first couple of weeks after beginning to drink kombucha tea. Those that had been drinking it for years still reported this benefit.

If drunk immediately before retiring to sleep, kombucha helps some people go to sleep, and keeps others awake. It would seem logical that a tart, low sugar brew would be best for insomnia. Many people who drink kombucha have reported vivid dreams.

Making a brew

You make kombucha with sugar, tea and a culture (a symbiosis of bacteria and yeasts). Its taste can range from something similar to champagne, to a refreshing light wine, to strong apple cider vinegar, depending on the amount and acidity of the starter, the fermentation time, the amount of sugar and type of tea that you use. An older, tart brew is more acidic and has a much higher level of healing properties than a young, mild and slightly sweet brew.

You need not be too concerned about using sugar. In a strong, tart tea, brewed over two weeks, only 3% of the sugar remains. 97% of the sugar is consumed and converted by the culture.

Kombucha is easy to make. First, you need a starter in the form of a pancake-like mushroom, and some live kombucha tea. You can get a starter from a friend already brewing kombucha, or check [Grow Youthful](#) for a list of contacts.

Recipe

For one litre of kombucha you need:

- 60-90 grams of white or raw sugar.
- 3-5 grams of tea leaves.
- 100 ml of kombucha from a previous brew (10% required as a starter).
- a piece of kombucha mushroom.

Boil the water and the sugar. Tap or spring water is fine, but not distilled or reverse osmosis filtered water, because the brew needs the minerals found in most water. Add the tea, and leave it to sit for at least ten minutes before removing the tealeaves or bags. I usually leave them in until it is completely cool. When your tea is at room temperature, you can pour it into your brewing bowl and add the mushroom and the starter. It is important that it has cooled completely – if it is above 35°C, you can kill the starter. Cover it with a clean cloth that lets it breathe. Put it in a quiet place out of sunlight, where it will remain at a stable temperature between 23°C and 30°C. Use a bowl made from glass, china, enamel or glazed terracotta. Metal, lead crystal and cheap plastic are unacceptable. Kombucha reacts strongly with any metal, and can take up toxins from some plastics. The bowl should have a wide top for good breathing.

Within a few days, a clear or translucent thin skin will start to form on the top of the liquid, and it will smell fermented. The brewing time depends on the temperature, and your taste requirements. After 6-12 days, the new mushroom culture will be a centimetre thick, and grey, cream or peach coloured.

Before you bottle your brew, remove the mushroom culture that has formed on the top, and keep a saucer-sized piece of it for your next brew. Also keep some of the brew as a starter.

Stir up the sediment that has formed in the bottom of the bowl, and then bottle it in glass bottles, tightly capped. The sediment contains yeasts that make it fizzy. It needs a day or two after bottling to build-up enough pressure to make a fizz. I put it in the fridge for a few hours before serving - otherwise the froth overflows when you open it.

You may wish to pour it through a tea strainer before drinking it, to filter out the (harmless) stringy growths and remnants of the culture. However, if you pour it carefully it is usually clear.

Making kombucha has almost as many variables as does making wine. The longer it is left, the sourer it will become. The more starter you use, the more acidic you make it. You can use a variety of teas such as ordinary black tea, oolong or green tea. I prefer green tea because it has anti-carcinogenic properties, is beneficial to the heart and blood circulation, has less caffeine and is particularly nutritious. Green tea also gives a slightly milder flavour to the brew. Generally, the finest teas make the best brew.

Normal kitchen hygiene is OK – your equipment does not need to be sterile. Mould can form if the brew is not acidic enough – usually because insufficient starter was used. It can also form because of poor hygiene or cigarette smoke. If there is any mould on your culture, throw it away, and do not risk drinking it. Other factors which can spoil a culture are sunlight, contact with metal, cigarette smoke, insufficient air, or water with no minerals in it (distilled or reverse osmosis filtered).

Do not add other ingredients to the brew. Thousands of enthusiastic brewers have experimented over the years, and keep coming back to the basic ingredients of sugar, water and tea. Do not add vitamins, preservatives, other yeasts, real mushrooms, artificial sweeteners, oxygen drops, fresh or dried fruit, coffee or anything outside the basic guidelines.

A few **herbs**, such as elderflower, raspberry, nettle, rosehip and hibiscus add delicious flavours and other characteristics to the brew, including the medicinal benefits of the herb. Elderflower in particular, adds a high level of fizz and sparkle to the drink, and imparts a dry Muscat flavour. However, Earl Grey tea, and many other herbs with aromatic oils can kill your fungus. (Earl Grey is made with bergamot, a citrus oil). I suggest you do not experiment with herbs until you have completed several brews, and are familiar with the variables in a normal brew. Ensure you keep a backup, in case your brew dies.

I usually use a portion of (green) tea when making a herbal kombucha. Herbal kombucha is more expensive to make – generally, you need to use six times more herbs (by weight) than the tea you are replacing.

Bad brew. Kombucha can become infected with a variety of other microorganisms, depending on the environment and conditions under which it is brewed. The acidity of kombucha will normally protect against harmful microorganisms, but if you suffer any negative symptoms when drinking kombucha there is a small possibility that your brew has been infected. When infected, it will smell or taste unpleasant.

How much kombucha to drink?

Remember that kombucha contains a high proportion of acetic acid, similar to vinegar. I suggest you should not drink it in large quantities just because it's delicious and you are thirsty.

When and how much to drink varies with different people; pay attention to the effect on your body. Many people drink kombucha in the morning, before breakfast.

Kombucha is a powerful detoxifier. When you start using it, drink a small amount, and drink more water during the day. Perhaps start with 50 or 100 ml, and watch for any effects. Some people notice gas, stomach-ache, nausea, fatigue, pimples, rashes, diarrhoea, or a headache. These effects are temporary, normal, and the result of beneficial bacteria repopulating your gut, and the movement of toxins into your bloodstream. Additional water helps excrete these toxins as quickly as possible. People with

disease or severe toxic conditions may experience a healing crisis if they drink too much too soon.

I would suggest drinking a maximum of one 200 ml glass per day as a preventative. If you drink more for a specific ailment, then cut back later. Large quantities of kombucha can be quite hard on your liver over several years or in high doses. Give kombucha a break for a month or two each year. After several years of drinking it, take an even longer break.

As a cancer treatment, and in treating specific ailments, kombucha has been used in quantities up to 2 litres per day, for up to 6 weeks. Only drink this sort of quantity under supervision. You can increase from your normal dose at the onset of an infection, or during stress, illness, or exposure to environmental toxins or radiation.

Children can drink kombucha, in quantities adjusted for age or weight. You can also dilute it with water.

Do not drink kombucha before or during pregnancy, because of the alcohol it contains (up to 1%).

Diabetics should drink longer fermented sour teas, so that most of the sugar has been converted. However, making the tea with insufficient sugar (less than 60 grams per litre) will reduce many of its beneficial characteristics.

History

The earliest record of kombucha seems to have been in 414 B.C. in Korea. It showed up in China in 221 B.C. during the Tsin Dynasty, and soon found its way into Japan, Russia and India. In Russia, it became established as an effective folk medicine in many rural communities.

After World War II, Russian researchers were looking at why cancer appeared to be on the increase in their country. They found that two particular areas of the country stood out like neon signs because they were almost cancer free. The people in these areas also lived longer, regardless of the fact that alcohol and tobacco consumption was higher

there. They reported that the men of the region used to drink large quantities of kombucha before their drinking bouts. This was the first modern scientific evidence that kombucha is indeed an immune system booster and body detoxifier. In the 1950's it re-surfaced when Soviet doctors discovered whole communities that had apparently been protected from dangerous environmental pollution by kombucha.

Kombucha became popular in Japan after World War I. Visitors to areas where the tea has been consumed for generations are surprised to see that the women are virtually unwrinkled, with few other visible signs of ageing. Samurai warriors used to keep kombucha cultures in field flasks, regularly topping them up with fresh tea and sugar. The tea is again widely used in Japan. Today, at least six million people around the world brew kombucha, and several times that number drink it.

KEFIR

Kefir is a probiotic cultured milk drink that originated in the northern Caucasus Mountains many centuries ago. It has a thick creamy sticky consistency, tastes a little like yogurt, and has a milky, yeasty smell. Kefir contains around thirty strains of bacteria and yeast, including *lactobacillus* bacteria. In contrast, yogurt contains only one or two strains. Many aromatic compounds contribute to its unique flavour and distinctive pleasant aroma. Kefir has a slight natural carbonated effervescence, and contains between 0.08 - 2 % alcohol.

You make kefir with milk and live **kefir grains**. The grains look like small cauliflower florets, though when you wash them with water you can see that they are translucent. They are a complex bio-matrix structure of soluble gel-polysaccharide, organic acids, yeasts and bacteria.

The kefir grains vary in size from the size of a match head to that of a golf ball. They can take from days to months to double in size, depending on the temperature, the milk and its' fat (cream) level, and the frequency that you stir or agitate it. The grains are also highly nutritious, though they are a bit rubbery and have little flavour.

Kefir grains are remarkably tough, resilient and adaptive. They stay alive when kept in a refrigerator, though freezing will destroy them. If you

want to consume kefir every day, keep the brew at room temperature. If you put the brew in your refrigerator, it will slow the brewing process or even hibernate. Keep it in a sealed container in the refrigerator.

Kefir is unlike other dairy products, because it is easily digestible and contains little sugar (lactose), especially if you let it ferment for a longer period. The proteins in the milk are also broken down, and are virtually in a pre-digested state. *You can partially restore the damage done to milk when it is pasteurised by turning it into kefir.*

Kefir is a good source of protein. You can drink it on its own, as a meal in itself. It combines well with fruit or muesli, or use it to make a smoothie. It makes a good starter for sourdough breads, cakes, and all forms of baking. If, like most people, you have a damaged digestive system, a glass of kefir is a soothing and healing product. You may find that during the hours after drinking it, your stomach feels settled and stable.

Kefir has anti-tumour properties, preventing the development of metastasis. It is an anti-inflammatory and is an excellent stimulant for your immune system. The grains produce their own antibiotics. Kefir is rich in minerals and vitamins, particularly the B group and vitamin K2. Kefir slows the ageing process. It has many healing properties, helping with heart and artery disease and regulating blood pressure. It assists your digestive system, healing the liver, kidneys, spleen, pancreas, gall bladder and stomach ulcers, and soothing your digestive and urinary tracts.

You make Kefir by placing 1-2 tablespoons of kefir grains in 1 cup (250 ml) of milk, and leaving it to ferment for 12-48 hours at a temperature of 18-30°C. It needs a longer period with less kefir grains or lower temperatures. At first the milk thickens, then it starts to set. Next, it separates into curds and whey.

You can use pasteurised, raw milk, full cream or low-fat milk. Traditionally it is made with raw un-homogenised milk, and that is what makes the best kefir and is by far the most nutritious and digestible.

After fermentation, fish the kefir grains out of the liquid, and use them to start your next brew. You can consume the liquid right away or store it in the refrigerator for later use.

Do not expose kefir to metals like copper, iron or aluminium. Try not to use a spoon, sieve or container made from such metals. I use a stainless steel sieve and spoons, and glass containers.

There is no need to wash the kefir grains between each brew - this may even damage them. Some people give their grains a rest in filtered water between once a week and once every few months. This rest can be 12-24 hours, and the water produced is a nourishing drink.

If you don't want to make kefir for a month or two, cover the grains with milk or kefir in a sealed container, and put it in the fridge. When you get back the brew might be a bit cheesy and quite strong, but it should be nourishing and the grains will resurrect when they are again in milk at room temperature.

Secondary Fermentation. This is the traditional or no-fridge method of storing kefir. You can bottle the liquid and store it at room temperature for up to one week. This will cause secondary fermentation, and the kefir will be fizzy. It will have higher levels of folate, alcohol (but less than 2%) and B group vitamins. The secondary fermentation will consume most of the remaining lactose and galactose in the kefir, making it suitable for lactose intolerant people, or those who need to watch their sugar intake (e.g. diabetics). The longer you leave it, the sourer its taste.

Fill the bottle only $\frac{3}{4}$ full. Release the build-up of CO₂ gas daily, and give the bottle a gentle shake at least once a day. The agitation is necessary to mix the yeast colonies back into the kefir and prevent mould developing. You can pour out kefir to use at any time, or top it up with fresh kefir made that day – as an ongoing storage method.

Kefir Grains. Go to [Grow Youthful](#) to get a starter and read up on kefir's history, properties, brewing and recipes.

REJUVELAC

You can make this living, enzyme rich drink by soaking sprouted whole wheat, oat or barley grains in water. The taste is subtle, alive and slightly tart. The first batch is sweet and grassy flavoured, subsequent batches become weaker and more acidic.

[Rejuvelac](#) is a rich source of friendly probiotic bacteria to heal your digestive system. Drink it as a digestive aid, a detoxifier, and use it as a starter for other fermented foods such as raw nut and seed milk, sauces, cheeses and Essene breads. Some people use the spent grains to make Essene bread.

It contains eight of the B vitamins, vitamins E and K, and a variety of proteins, dextrans, carbohydrates, phosphates, saccharines and amylases. It is rich in enzymes that assist both your digestion, and the growth of friendly bacteria such as *Lactobacillus bifidus*. *Lactobacillus* produces a lactic acid that helps your colon maintain its natural, vitamin producing facility. It also helps cleanse your intestinal tract.

To make Rejuvelac, soak a cup of wheat grains (berries) overnight after washing them well and discarding any dead or discoloured seeds. Then keep them damp, and change the water 2-3 times per day. After the grains sprout, and the sprouts are about the same length as the grains, put them in a tall container and cover them with spring or filtered water. Keep the container in a quiet dark place. After two days, pour off the first batch of Rejuvelac.

Add a similar amount of water to the sprouts, and pour off your second batch after another 24-48 hours. You can repeat this process 2 – 3 times, with each batch a little different, but eventually getting weak and insipid.

Warmer temperatures in summer will decrease the fermenting times by as much as a third. You can experiment with other grains such as millet, oats, rice, barley, rye and buckwheat. My best results have been with wheat and rye.

Rejuvelac will store in the refrigerator for weeks, gradually getting stronger and more acidic.

EARTHING / GROUNDING

What is grounding?

Earthing or grounding is when you make an electrical connection between your body and the earth. Walking barefoot, sitting or standing on the ground or on a conducting surface connected to the earth achieves this effect, as does paddling or swimming in the ocean, a lake or a river. Standing on soil, grass or even concrete is grounding, provided you are not insulated from the earth by a plastic sheet or some other insulating layer.

The Earth's surface maintains a negative electrical potential. It is like a veneer of free electrons. When parts of your body touch the ground (by walking, sitting, or lying on it) these free electrons are conducted to your body, bringing it to the same electrical potential as the earth. These free electrons act as an antioxidant. They are one of the most important and abundant antioxidants available. ⁴³²⁻⁴⁴⁶

Why do we need to earth ourselves?

When the body is not in contact with the ground, an electron deficiency (positive charge) can build up. Sources of this deficiency include numerous electrical appliances and the build-up of static electricity from friction and wind. When the body holds a positive charge for long periods, it can detrimentally affect many ionic processes. Modern life disconnects us and insulates us from the ground and causes a chronic electron deficiency (antioxidant deficiency).

For nearly all of human evolution, hunter-gatherers were connected to the earth. Paleolithic people walked bare foot. The only footwear they ever wore was as protection in the coldest climates, and this was made from leather, which is electrically conductive especially when damp. Our

early ancestors slept on the ground. Their entire day was spent directly connected to the earth.

In contrast, the entire day of modern city dwellers is spent insulated and disconnected from the earth. We wear rubber-soled, insulating shoes most of the day. Synthetic-soled shoes have been widely used since the end of the war in 1945. When we take these shoes off, it is usually in a house with a raised or insulated floor surfaced with wood or carpet, both of which insulate rather than conduct electricity. We sleep on raised and insulated beds. Concrete floors are laid on a plastic membrane, insulating it from the earth. Bitumen or tar, used to make roads, is electrically insulating. All our vehicles drive around on rubber wheels. In short, everything about modern living is insulated from the earth. Multiple story buildings in cities take us up even further away from the ground.

Humans evolved on the ground, and were almost always connected to the ground. Consequently, we did not develop any kind of sensory or warning system to let us know when we are not grounded. After going for a walk on the beach, lying on the earth or on a lawn, or sitting on the ground round a camp fire, we tend to feel happy and well. But we lack the instinctive feeling that the contact with the earth is the cause of this wellbeing. Unfortunately, we do not have an instinctive need to ground.

Grounding basics

Electrical flows in nature are all DC (direct current). However, the power we use in our homes, offices and factories is AC (alternating current) at 50 to 60 hertz (cycles per second). AC current is biologically harmful. AC electromagnetic fields exist around power lines, power junction boxes, power tools, electric stoves, electric heaters and hot water systems, refrigerators and freezers. Those appliances that use the most power have the strongest fields, extending a few metres or yards around the appliance. If possible, try to minimise your exposure to the strongest fields. Grounding provides a stable DC electrical environment for the body, and protects against 50 Hz electromagnetic fields.

The earth's surface has a negative electric charge and the ionosphere a positive charge of about 50,000 volts (but at a low amps or current). The closer you are to the earth, the lower the voltage difference in your body. If you are grounded, there is little or no voltage difference between your body and the earth. However, if you are wearing insulated rubber shoes, the difference between the ground and your head may be 350 volts or 100 – 200 volts per metre. These voltage differences vary depending on where you are located, your altitude, the humidity and many other factors. High on a dry mountain it can reach 1000 volts per meter, while in low-lying and moist conditions it may be below 50 volts per metre.

432,435

Microwave pollution – probable protection

Grounding probably also protects us from the electromagnetic pollution in which we live today, particularly as urban city dwellers. We are bathed in radiation, particularly at the microwave frequency. Sources include mobile (cell) phones, mobile phone antennae, cordless phones, Wi-Fi computers and base stations, high voltage power lines, electrical junction boxes, and numerous electrical appliances around our homes and workplaces.

This microwave pollution is very different to the static charge that builds up from movement, and because of the AC power supply in our homes, environment and workplaces. Earthing probably protects us from microwave pollution, but I am not aware of any research demonstrating that it does. A counter-argument could say it is possible that earthing could attract a flow of microwave energy, in the same way that an earthed point attracts lightning.

Problems caused by being insulated from the earth (ungrounded)

A chronic deficiency in the most abundant antioxidants with which we evolved.⁴⁴⁶

Low energy and vitality.

Gut biome. It is likely that being ungrounded affects our gut biome, though I am not aware of any research in this area. Gut bacteria and fungi

are sensitive to their electrical, ionic and antioxidant environment. Bacteria are crucial for good health, assisting with the digestion of food, the production of many micronutrients, the immune system and many other functions.

Chronic (ongoing) inflammation is caused by an electron deficiency. Negatively charged electrons from the earth neutralise excessive free radicals produced by our food and from our metabolism. ^{432,446}

Chronic inflammation is a common cause of numerous modern degenerative diseases, including allergies, Alzheimer's disease, ALS, arthritis (osteo and rheumatoid), atherosclerosis, asthma, autism, Behcet's syndrome, bronchitis, cancer, cardiovascular disease, chronic fatigue, depression and many neuropathies, diabetes types 1 and 2, diverticulitis, dry skin, dry itchy eyes, eczema, epilepsy, erectile dysfunction, fibromyalgia, headaches, intestinal disorders (Crohn's disease, diverticulosis, food allergies, IBS, reflux), kidney failure, lupus, migraines, multiple sclerosis, pain (chronic), pancreatitis, periodontal (gum) disease, prostate enlargement, psoriasis, sinus problems. ^{432,444}

How to ground

For some people a regular connection with the earth comes from standing barefoot or sitting on their lawn, or watering, digging, planting or getting the hands dirty while gardening. The effect is stronger when the sand, soil, grass, rocks or concrete is damp or wet. Other city dwellers get a connection with the ground when they strip off and lie on the grass in a park on a warm sunny day. Some only get that connection on a holiday vacation, paddling at the beach, sitting on the earth round a camp fire, or with bare hands or feet on rocks, trees or ground.

You can also connect to the earth with an electrical earthing connection.

- A metal stake or a copper pipe driven into the ground. Standard electrical wire connected to this stake makes a good earthing connection.

- Cold water plumbing pipes may be an earthing source, provided they are made from copper and are continuously connected down into the ground. However, drainage pipes often are made from plastic so may not be suitable.
- The common electrical power sockets or outlets around your home have three wires, and one of them is an earth. If the building is properly wired, this earthing connection should be connected to the ground through a metal spike. This enables appliances to discharge to the earth if there is a problem causing a short, shock or interference.

You can purchase or make conductive bed sheets, floor mats, desk mats, arm and wrist bands, and other means of earthing yourself, your bedding mattress and your furniture through a copper electric wire to an earth connection.

Ocean salt water is probably the best grounding source. The salt makes it a potent electrolyte, so it is many times more conductive than fresh water. Walking on the wet sand and swimming in the ocean is as good as it gets.

For sleeping the best results are obtained when you sleep directly on the earth, with your skin in contact with the earth. Natural fibres such as linen, cotton, burlap (hessian) also allow earthing, particularly if they are slightly damp.

Warning. If you are taking any medications, grounding should be done with the cooperation of your doctor. This especially applies if you are taking blood thinners such as Coumadin and others, as they may no longer be needed and your blood will be too thin. But remember, all you are doing is reverting to the way humans evolved in contact with the earth in the first place.

How long to earth?

The benefits of earthing can be felt within minutes, hours or days, depending on your individual circumstances. Your particular ailment(s), how severe and entrenched they are, the general state of health and

nutrition, the level of sensitivity, toxic accumulation and many other factors make it difficult to say how long it will take to get improvements or cure a condition.

Some people report that 20-30 minutes after grounding their skin turns pink, and / or they can feel warmth or tingling starting at their feet (if that is where they are grounded), taking another 20 minutes to get to their trunk, and then finally their head.

The more time you are grounded, the better. Strong effects are apparent when you earth yourself 2 or 3 times each day, for at least 30 minutes each time. It takes 20-30 minutes for a healing response to start, and after 30-40 minutes several physiological improvements can be measured. Sleeping earthed and being earthed during the day leads to the best improvements.

The bottom line? The more you are earthed every day, and especially at night, the better. ⁴³²

Health effects of grounding

Populations with exceptionally healthy and long lifespans seem to live on mountains such as the Andes, Caucasus and Himalayas, whilst leading lives that have a high degree of connection to the earth. ⁴³⁷

Heals chronic inflammation occurring in many parts of the body, and so helps with the prevention of and recovery from many degenerative and autoimmune diseases. ^{437,438}

Improved health, energy and vitality. Better mitochondrial and ATP function. A remedy for chronic fatigue.

Rapid healing. Fast recovery from trauma and burns. Quick recovery from sports injuries and over-exertions. The best results are obtained if a grounding patch is laid directly on the wound or painful area.

^{434,436,437,438,445}

Re-vitalised immune system. Grounding is one of the most effective, least expensive and easiest to attain sources of antioxidant electrons. Your immune system kills bacteria and other microorganisms using reactive oxygen species (ROS). These powerful oxidants are delivered to the site of an injury by white blood cells. ROS destroy invading microorganisms, but they are also reactive biochemically and can damage healthy tissues. ROS are positively charged molecules that need immediate deactivation to prevent them from diffusing into healthy tissues. A continual supply of electrons from the earth is an effective way to do this. ^{437,438,446}

Allergies reduced or eliminated. This includes food allergies, and allergies to pollen, dander etc.

Diabetes/ metabolic syndrome. Reduced fasting blood glucose. Weight loss. Diabetic neuropathy (numb feet) improved. Diabetic eye disorders like glaucoma and keratoconus improved.

Digestion. Remedy for many digestive ailments. Improved absorption and assimilation of nutrients, with increased levels of minerals and electrolytes in the blood. ⁴³⁷

Thyroid / endocrine. Improved function of the entire endocrine system. Cortisol rhythm is normalised along with other hormones. Improved melatonin levels. Improved sexual arousal. Improved perspiration in those who sweat little. ^{433,437}

Brain / nervous system. Earthing reduces every measure of stress used in studies. Calming effect, especially of children. Calming of the autonomic nervous system. General shift from sympathetic (stress, fight-or-flight, panic) to parasympathetic (calm) mode. Reduced effects of stress. Feeling of wellbeing, clear thinking. Treatment for epilepsy and seizures.

^{433,437,438,439,440,442,443}

Pain. Reduced levels of chronic pain. ^{433,434}

Slowing of ageing. All the benefits listed translate into a slower rate of ageing, and even the reversal of most of the symptoms of ageing. ⁴³²

Sleep / biorhythms are reset or synchronised. One example is that earthing is a quick and effective cure for jet lag, which may be reset with 15 minutes or more of bare feet on the ground. Earthing can re-establish deep and regular sleep. Snoring also stops or reduces. ^{433,437,440}

Cardiovascular improvements. Natural blood thinning, with reduced blood viscosity. Atherosclerosis prevented or reduced. Improved blood circulation. Reduced blood pressure. Decreased blood cell clumping. Some people report that after first starting to ground, their skin turns pink as a result of improved blood circulation in the skin's blood capillaries. Regulates heartbeat with improved heart rate variability (HRV). High HRV is good – rate goes up with exertion and recovers quickly after. Remedy for heart arrhythmia including premature ventricular contractions and arterial fibrillation. ^{436,437,438,440,441,442,443}

Better breathing, improved lung function. ⁴⁴³

Easier periods. Remedy for PMS and many female ailments.

Better kidney function, stronger and more effective urination. ⁴⁴⁵

Reduced prostate swelling so that men can pee with force.

SLEEP AND REST

Sleep is one of youth's secrets. It has a direct effect on your vitality and rejuvenation. If you get regular and sufficient deep sleep, your nervous, immune and digestive systems benefit, and you will enjoy a high level of vitality and energy. You will have a better memory, and a better mental focus. You will be more likely to digest your food fully, providing a base for good health. Your hormones will be in better balance, so you are less likely to inappropriately hungry, and therefore overweight.

Sleep is the time when your body detoxifies, and your tissues repair and grow. When you sleep, and even when you rest, toxic waste products are

processed and eliminated at all levels, from sub cellular to body organs. Sleep is particularly important for the [removal of toxic metabolic waste in the brain.](#) ^{242,243,244}

You get tired after a long period of work, physical exercise, or stress. The exercise generates the waste products more quickly than the disposal mechanisms can get rid of them. When you rest, the toxins are discarded faster than they are generated.

During sleep, your ego-driven mind takes a rest, and instead your brain processes, connects and stores the images and experiences you had during the day.

Lack of sleep within hours can lead to slow reactions, inappropriate hunger and a stressed and compromised immune system. Chronic lack of sleep, from which a large portion of the population suffers, results in a shutdown of many mental and body processes. It is associated with obesity, metabolic syndrome, diabetes, heart disease, shortened telomeres and an increased rate of aging, more infections from a weaker immune system and many other degenerative diseases. ^{359,360,361}

Most adults need between six and eight hours of sleep per day, and children need more. Excessive sleep is as detrimental as getting too little. With too much sleep, you will feel physically and mentally sluggish, and it can even lead to depression.

Convention has it that older people need less sleep than younger people do. Growing children certainly need more sleep. However, older adults need as much sleep as young adults if they are operating at the same level of physical and mental fitness and activity.³⁰

Sondra Ray³⁷ describes how some people, particularly those who are fifty years old or more, find that they wake up at four or five in the morning. They worry that they can't sleep and sometimes take sleeping pills. What is actually happening is that they are coming into their spiritual age, and they have no sleeping problem at all. They should be working and using that time for spiritual endeavour.

If you adopt the life changes suggested in *Grow Youthful* (especially the dietary changes and carbohydrate concentration) you will need significantly less sleep. Just a few hours of deep sleep, possibly combined with meditation or a midday nap, can provide sufficient for optimal health. Each individual is different, so you will have to find what suits you.

Make your sleep pattern a part of your daily routine. Animals instinctively go to sleep when the sun is at the same position each day. Humans have this instinct too, but most choose to ignore it. We sleep best during the night, when the sun is down, and wake up naturally early in the morning, just before sunrise. Virtually all long-lived disciplines and traditional ethnic groups keep to such a cycle. The Taoist masters, and people from the Hunza and Abkhazian regions enjoy superb health and longevity. They typically go to sleep after the sun sets, and wake before sunrise. As the hours of darkness contract and extend during winter and summer, they adjust their bedtime accordingly. The important point is that they keep a regular routine, and do not work late into the night long after the sun has set, only to wake late in the morning after the sun has been up for some time.

Napping. Many cultures, particularly around the Mediterranean, have a sleep or rest in the middle of the day. I recommend this, especially in the summer in hot climates when the sun is strong and harsh around midday. Half an hour of sleep or a nap in the middle of the day is worth an hour of sleep at night, so it is an efficient use of your time. Taking off that time after your lunch is part of a relaxed and natural lifestyle. However, it is important that you commit to this and do it every day, not just some days. If you take a nap only on some days, it upsets the regular daily schedule that is so important for health and longevity.

Sleeping Tips. Here are some suggestions to ensure you quickly fall to sleep, and then have continual deep and restful sleep.

- The key point with sleep is *regularity*. Try to get to bed at the same time every night and wake up at the same time every morning, seven days a week. “Catching up” with sleep on the weekends disrupts your circadian rhythm and upsets your body’s hormonal balance. Research

shows that regular sleep has a major effect on sports performance, and athletes who travel across a time zone to play are at a disadvantage.^{194, 195} If you have a late night, get up at your normal time the next morning. Regularity is discussed on page 354.

- In the hour before you go to bed, prepare for sleep. Avoid stimulating activities such as heated conversation, TV, work, chores, computers and anything that might get you fired up. Avoid bright light such as TV, computer and phone screens, and bright room lights. Try to keep electronic gadgets and distractions out of the bedroom.
- Try not to eat for at least four hours before going to bed. Detoxifying processes use large amounts of energy during your sleep, and you do not want to sabotage them by diverting energy to your digestive system. If you eat soon before sleeping, your food will not be fully digested, and a slow or partial digestive process will continue while you sleep. You will wake with a full and sluggish feeling. Your digestion needs a rest as well as the rest of your body.
- Get plenty of bright sunlight in the morning. Go for a walk in the morning, try not to wear sunglasses. Continue to get lots of sunlight during the day. However, at sunset start to get less light. Avoid bright light at night, especially blue and ultra violet light. Watching a bright TV before bed is not helpful. Gentle red light at night will disrupt your sleep the least. The best colour light before you go to bed and if you wake up during the night is red light.
- Sleep in a dark room, with the curtains shut. No lights, not even a bedside clock.
- If you wake up during the night, try to avoid turning on a light, or looking at lights (TV, phone, computer screen). As soon as you look at a light, your melatonin level plunges. This will affect the rest of your sleep that night and your health in general.²³⁶
- Try to drink your last drink at least an hour before going to bed. Allow enough time for liquids to pass through before you retire, so you do not have to get up during the night to urinate.
- Avoid caffeine and alcohol for several hours before you go to sleep. Caffeine is a stimulant, which keeps you awake, and a diuretic, which

stimulates the flow of urine. Alcohol may help you relax, but not necessarily sleep well.

- Avoid sweet foods in the evening or late afternoon. I have noticed that eating dried fruit, in particular raisins and goji berries, keeps me awake at night.
- Experiment with when you eat your proteins. Many people find that eating proteins for breakfast or lunch is OK, whereas proteins consumed after 2-3 pm disrupt their sleep. Proteins eaten at night can interfere with your liver's ability to cleanse your blood and process wastes while you are sleeping. Sleep is a time of cleansing, not protein digestion.
- Drink a little sour yogurt, kefir or kombucha before going to bed. You will have to experiment as everybody is different. The important point is not to consume too much and impose on your digestive system. One tablespoon of yogurt or a quarter cup of kombucha may be sufficient.
- Exercise has a positive effect on deep sleep. If you are fit, you will have better circulation, resulting in more efficient detoxification during your sleep. However, exercise is a stimulant, so do not exercise less than three hours before retiring.
- Sleep in a well-ventilated room. With sleep being a detoxifying process, you want the most clean, oxygen rich, ionised air possible. Ideally, sleep out in the fresh air. If you live in a polluted city or cold climate this may not be possible, but ensure that a window is open to allow fresh air in and the removal of stale air.
- The temperature in your room should be comfortable but cool for the best sleep.
- Sleep on a firm mattress, and use a small, firm, low pillow. Mostly, lie on your back with your arms stretched alongside your body. The mattress should be on the floor, or on a solid base. If you are used to a soft mattress, for the first few days of sleeping on a firm mattress you may feel muscle and spinal pain. Soft, sagging mattresses and high pillows do considerable harm to your posture and spinal alignment. In addition to back problems, spinal misalignment can affect your liver, and indirectly, your general health.

- Do not take B vitamins late at night, as they may keep you awake.
- If you are using mineral supplements (especially calcium and magnesium) take them in the evening. They help you get a night of deep sleep. For some people, getting more magnesium is the cure for their insomnia.
- Take a warm bath before going to bed. The heat relaxes your muscles, which in turn relaxes your mind.
- Taoists and yogis say that your head should face to the north for a good sleep. This aligns your body with the earth's magnetic field.
- Several herbs such as valerian, vervain, chamomile, skullcap and passiflora can assist with sleep. They are quite subtle and may need a week or two to show their effect. Discontinue their use after a few months.

KEEPING TO A REGULAR DAILY SCHEDULE

Healthy and long-lived people have regular daily habits. They go to sleep at about the same time every night, and wake at the same time every morning. They eat their meals at the same time every day. Their activities and exercise fit into a regular daily schedule, weekends included.

Keeping to a regular schedule has both physical and mental benefits. Your body thrives on homeostasis –maintaining internal stability after some outside upset has caused an imbalance. Your environment is changing all the time, yet your body constantly adjusts itself to create the steady internal state that it needs for health and long life. Missing a meal or getting an unexpected sugar hit affects this healthy state of homeostasis.

Growth hormones, digestive hormones, sex hormones, cortisol, insulin, blood glucose, feel-good hormones – they all have regular cycles throughout the day. They have a powerful effect on [the best time of day](#) for physical activities, thinking and creativity, sex and sports performance.

Most of us know what it is like to lose a few nights sleep over a worry or while travelling. In this situation, we may feel tired and lacking in both physical and mental energy. Think back to the last time you were sick enough to have to spend part of the day in bed. When you are ill, you are less regular than when you are healthy. Your sleeping, eating, diet, exercise and activity can be thrown off balance at just the time when your body might benefit from the stability of the regular schedule it needs.

Numerous studies show that those who are grieving following the loss of a loved one are themselves at a higher risk of dying. Their emotional state upsets their hormones and other body processes. However, the regularity of their previous daily schedule is also turned upside down. They no longer keep to the same old schedules as they figure out new routines for eating, sleeping, socialising and living without their loved one.

We all have an internal biological clock called a circadian rhythm. It is defined by regular patterns of activity every 24 hours. Patterns include our sleep and wake cycle, the ebb and flow of various hormones, the rise and fall of body temperature, blood pressure, and virtually every other body process. When the circadian rhythm is disrupted, we feel weak, tired, cranky or off-kilter. Even small changes to your daily schedule can have a profound effect on how you feel and the markers of stress in your body.

Sleep may be the most important 24-hour pattern. It governs our eating behaviours and directly affects our major hormones. Sleep is discussed on page 342.

Shift workers who regularly work different hours, those who work at night, and people frequently flying long-distance routes across time zones have a substantially increased risk of breast and prostate cancer, and suffer higher rates of stroke, heart attack, diabetes, weight gain, mood and other psychological factors.^{201, 202} Female shift workers find it harder to get pregnant, and have more disruption to their pregnancies.²⁰³

Exposure to sunlight and other bright lights strongly affects your circadian rhythm. During the night, any light in the eyes immediately starts to

reduce the level of melatonin in the body. Bright sunlight in the morning resets the wake cycle and body clock, making you feel awake during the day, and sleepy at night. This will help you get a regular, reliable pattern of wakefulness and rejuvenating sleep.

Ghrelin and leptin are another two hormones governed by sleep. These are the “hungry” and “satiated” hormones. Ghrelin is secreted by the stomach when it is empty, and it increases your appetite. Leptin is produced by fat cells when you are full, to tell your brain that you need to stop eating. Research shows that a bad night’s sleep, or just not getting enough sleep, upsets these two hormones.³⁵⁸ For most people, two nights with only 4 hours sleep can result in a hunger increase of nearly 25%, driving them towards sweet calorie-rich high-carbohydrate foods. Insufficient sleep is a cause of obesity.

Early learning and brain development benefit from a regular schedule for young children. Two surveys^{196, 197} showed that younger children who adhere to bedtime rules achieved 6-7% higher scores on language and math skills. Other studies on teenagers and college students have confirmed the benefits of regular and restful sleep on their performance and test scores. Several other studies showed that children and teenagers who do not sleep well are significantly more likely to have suicidal thoughts and anxiety disorders.¹⁹⁸

Depression and anxiety disorders are the most common mental illnesses. 29% of all people will be diagnosed with an anxiety disorder during their lifetime, and 21% with a mood disorder.¹⁹⁸ These problems emerge early in life, with a median onset-age of eleven. Hence the crucial importance for kids as well as adults to have a consistent daily bed time and wake time, including on weekends. The tips for sleeping on page 342 apply to children as well as adults. Try to avoid sending a child to bed as a punishment, or allowing them to stay up late as a reward – this teaches exactly the wrong approach to sleeping.

Time out. We need regular downtime during our waking hours as well as sleep at night. The modern lifestyle with smart phones and always being in contact or being productive, mean that fewer people take the time to sit and reflect or gaze out the window.

There is increasing evidence^{199,200} that constant smart phone / TV / computer input inhibits the ability to learn, remember, and come up with new and creative ideas. It seems that constant stimulation prevents the brain from organising and consolidating its experiences, as it needs seconds and minutes of “time out” during the day to do this. Advertisers and mobile software want you to watch a video or check email while standing in line at the bank, but you may be over-stimulating your brain.

Test subjects were able to learn better after a walk in nature, rather than a walk in a stimulating dense urban environment.²⁰⁰ Taking time out to go for a walk in a nature setting is highly beneficial for depression.¹⁹⁹

Having a regular daily schedule need not be monotonous or boring. Your body will respond positively, giving you more energy, mental clarity, and wellbeing. Remember that Olympic and professional athletes get to the top of their sport with strict daily schedules.

MEDITATION

WHAT IS MEDITATION?

In his book *Siddhartha*, Herman Hesse talks about a place that all of us can visit: “Within you there is a stillness and sanctuary to which you can retreat at any time and be yourself.” This haven is a place of safety and comfort, where you can sit and just be. In no way does it mull over the past or fret about the future. Neither does the turmoil of events in the current moment intrude.

Meditation involves both your body and your mind. It is easy to understand the importance of physical relaxation, because we all get tired after exercise, work or other activities during the day. Physical rest – sitting down for a period – and our sleep each night - rejuvenates us. Deep physical relaxation is revitalising and detoxifying. However, your mental state or attitude is just as important.

You enter a place where time is not measured and valued by the hour. Meditation can sweep the clutter from your mind – the constant chatter, jumping from subject to subject; the focus on your ego - trying to look good and avoiding looking bad; and the emotions coming from a story running in your head – lonely, angry, scared, guilty, proud or whatever.

The big benefit of meditation is that it is an antidote to stress. Stress and imbalance are at the root of many degenerative diseases and ageing. Simply by sitting still and doing nothing for a while each day, you give your mind a chance to withdraw from the stresses of daily life and explore its own innate powers. Even as a newcomer to meditation, when the monkey mind hops from one trivial thought to another, meditation still boosts your immunity by switching your nervous system over to the restful, restorative, immune-enhancing parasympathetic mode. Meditation results in deep physical relaxation, a more relaxed posture, biochemical changes and detoxification both physically and psychologically. Meditation helps greatly with your ability to cope with the stresses and disappointments of life. It starts with physical relaxation, and leads on to a feeling of calm, ease and mental relaxation.

Meditation is experiential – it is something you have to try for yourself to know the rich gifts it can bring. There is little value in reading about it unless you actually do it yourself.

“In medicine, we realise that people who don’t have enough time are probably going to develop health problems.” Deepak Chopra.⁵² Most people in the Western world fear **time**. Time pressure causes the release of stress hormones in your body. Think of a task you can easily do in a few minutes, such as taking a shower, making a phone call, or eating a snack. Now repeat the task when an authority has given you a sufficient, but strict time limit – a deadline. You will probably hear a new voice running in the background of your mind, a voice of fear. Notice how the word deadline contains the word dead – if you do not do it on time, you are gone.

The fact that you are aware of time and its limitations places stress on your whole being. Meditation helps you by removing time from your

mind. It brings you back to just being, floating in a world where time does not exist.

There is another threatening deadline that many fear – their own death. If you feel the time pressure of this advancing deadline, your body will stress in the same way that it will under any other stressor. Your death urge sends a message to your body's cells that is self-fulfilling.

Meditation takes you to a place that is timeless, where linear time does not inexorably move forward. You escape the bounds of the material world. Death here loses its power.

When you are feeling **emotions** meditation provides a sense of perspective, and shows you when you are letting that emotion dominate. A sense of balance, peace and harmony are the outcome. You will enjoy an improved ability to focus and concentrate. There will be less tension, or greater ease at both work and home. You will sleep better, and your responses, physically, mentally and sexually, will improve.

Note: if you suffer wild swings in your emotions, the cause is probably peaks and troughs in your blood glucose level (page 225).

WATCHING YOURSELF

Being able to watch yourself and your thoughts is one of the wonderful outcomes of meditation. Eventually you can look at yourself, your moods, and behaviour, almost as if you are someone else standing a few metres away, looking at your body. You can also watch what is going on inside your head. If you are angry, you know what triggered it, how you have chosen to behave, what you are saying, and how you are feeling.

There are many books and courses available to help you to watch your mind and your behaviour, such as Wayne Dyer's *Your Erroneous Zones*,²³ and courses run by *Landmark Education* all over the world. This is nothing new - virtually all the ancient traditions teach the same thing.

Practise watching yourself and how you behave in all situations – as problems arise during the day, when you are facing the emotions of others, and when you are by yourself. Be at least as interested in your *reaction* to any person or situation, as in the situation itself. Give at least as much attention to what is going on inside yourself as to the events in the world around you. You will then see the enormous amount of energy that you use in resisting, resenting, avoiding and complaining about the events and people around you.

For example, you are driving down the road in your car, and someone cuts you off and almost causes an accident. Without knowing whom they are, why they cut you off, or even if they meant to cut you off, you choose to be angry. You poison your own body, not theirs. I doubt that they feel sorry for their behaviour – they probably have not even noticed you.

It is a powerful realisation to be able to watch yourself and your behaviour in an unbiased way. Perhaps you are playing a game of tennis, and losing. Get out of your body, and watch what is going on. How are you behaving, what are you saying, and what emotions have you chosen to allow? Perhaps you are focusing on last night's lack of sleep, or your opponent's quite extraordinary string of lucky breaks, whilst at the same time saying to yourself "I just can't hit the ball today." Watching yourself is invaluable in many situations – how you are behaving in the company of other people, how you are handling a setback, and which things in life make you resentful.

When you start to watch yourself, you are living consciously. Most people are unconscious, and do not even know it. They are so used to a continuous background of negative emotions and thoughts that they think it is normal. To cope, they use painkillers – excessive alcohol, work, sex, TV, computer games, food, drugs, gambling or other addictions.

When something goes wrong in the life of an unconscious person, they over-react. Faced with a difficult person, a small loss or a threat to their ego, most people in Western society let their emotions run amok. They become depressed, angry, even violent, as they immerse themselves in inappropriate behaviour that they later regret.

Good questions to ask yourself frequently are “Am I at ease or resisting something in this moment?” and “What am I feeling right now?” If you are resisting something, you are creating your own unhappiness.

Anger is the result of wishing the world and people in it were different, and that things were going the way you want them to go. You can choose to accept the situation, and stop causing your own pain, or take action to resolve it. *Then drop it.*

Watch your mind when you make a minor mistake. It may criticise you repeatedly, as you beat yourself up. Instead, look at the lesson you have learned from the mistake, and move on.

PREPARATION

Posture. Do not be too comfortable when doing these relaxation exercises. I suggest you should not be lying down. After all, you will need to integrate them into your everyday life, whatever you might be doing. An element of minor physical discomfort is essential, so you can learn to attain relaxation, whatever the circumstances. You want your relaxation to come from your mind, not from physical comfort and safe, serene surroundings.

Sit cross-legged on a cushion on the floor, with your back unsupported. Keep your back, head and neck in alignment, so that little muscular effort is needed to maintain the position. Your posture should be symmetrical, with your arms and legs in similar positions on each side of your body.

Alternatively, sit on a stool or straight backed chair. Your back should be straight and your head aligned above it, and your feet flat on the floor. Your arms can be resting on the chair’s arms, or on your lap.

Timing. I suggest you start doing the relaxation exercises for 10-20 minutes each day. It will quickly become part of your routine, like cleaning your teeth, taking a shower or going to the toilet, especially after you enjoy the benefits of being more relaxed.

You can practise these exercises when doing simple things such as walking down the street. Take the opportunity to practise when you have a pause during the course of the day, and recapture the feeling of relaxation in your mind. At first, you will need the intention to do it consciously, but after a while, it will penetrate your being and all that you do.

You may wish to spend more time meditating when you are able to attain a deep state of relaxation. There are no fixed rules – 20 minutes per day can give you profound benefits; additional time can take you to new places.

Disturbance. Choose a place and a time where you will not be disturbed. Take the phone off the hook, close the door, put up a do not disturb notice, and ensure the children are not going to want your attention.

RELAXATION EXERCISE

“Only let the moving waters calm down, and the sun and moon will be reflected on the surface of your being” – Rumi.

Relaxing your muscles is the starting point when learning to meditate. If you are stressed and anxious, your muscles will be tense. Certain groups of muscles will be particularly tense, depending on your emotions, your upbringing, and your particular stresses. For example, anger may be reflected in the jaw muscles, fear in the knees and legs, sexual tensions in the hips, and heavy responsibilities in the neck, shoulders and back.

Relaxation is something you can do on your own, but more importantly, is something you should learn to do in the presence of other people. It is essential that you can relax in the company of members of your family, friends, workmates and all the other people in your life. If you can only relax when you take time out and go somewhere different or isolate yourself, then you are letting your everyday circumstances control you.

If you have a good imagination, you will be able to relax more easily. For example, if you can totally involve yourself in a scene from nature such as

lying in the grass in a peaceful meadow, or walking in the sand on a beach, then you have the ability to relax at will.

Most people are rather self-conscious about doing their relaxation exercises in the presence of others. They would rather do them in private, without letting anyone else know what is going on. However, one of the secrets of relaxation is to learn to use these techniques in the presence of your partner or other people in your life.

Relaxation exercises are not difficult. Quite a few people get a block because they are not immediately effective. Experience has shown that many people tend to give up easily on mental exercises. Accept that you are not going to get a dramatic overnight change in your state of mind or ability to relax, but rather a slow rate of improvement. You will have ups and downs in your progress. Consequently, it is quite difficult to confirm that you are improving – it requires perseverance and faith to keep up the exercises for a period.

Some people find that after a few weeks of doing the relaxation exercises, the problems caused by their stress have disappeared. Most people who have done the exercises for long periods find that the techniques unconsciously become part of their way of living, and the calm and ease of mind add greatly to their lives. Relaxation is a pleasant and healthy non-drug form of treatment for a myriad of serious physical and mental problems. Once you realise how powerful, simple and effective relaxation is, it becomes a life-changing attitude to adopt.

Start the relaxation exercise by sitting up straight. Let your hand rest on your thigh. Gently press the muscle on the top of your leg, feeling how firm it is. Now make as if to lift up and straighten your leg, but do not actually move it. Your hand will feel the muscle firm. Now allow the muscle to let go, and your hand will feel it soften. Next, try doing it without your hand on your thigh. You are still quite aware of the muscle tensing and hardening, and then softening and letting go. Do this a few times, and you will capture the feeling of tensing then relaxing your muscles just with your mind, while sitting quite peacefully.

Next, you can cycle through a series of muscles in your body, achieving a deeper feeling of relaxation. As you place your awareness on each muscle, you don't necessarily need to tense it before relaxing it. Rather, just feel it, and then let it go.

The **exercise** that follows takes at least ten minutes and longer if you cycle around your whole body. If you like, you can record the instructions that follow on tape, and play it back to yourself while you do the exercise. Record it slowly, in a calm voice.

Close your eyes gently. Take a slow, deep breath, filling your lower lungs. Pause for a moment, and then exhale fully. Continue to breathe slowly and naturally. Let's start with your left hand. Feel your thumb, feel the tension in it, and allow it to relax. Let its full weight rest on your thigh, or your chair's arm. Now turn your attention to your first finger, and then each of the other fingers. Your hand is heavy and comfortable. Feel your wrist, feel your arm, feel your elbow, really feel them. They are natural, just there, part of your body. More and more of your body is relaxing, as you move your awareness up your arm to your left shoulder. Feel your arm hanging from your shoulder, feel the weight of it. Your arm is now so relaxed it hardly seems to belong to you. From your shoulder, place your awareness on the left side of your neck, then the back of your neck. Take your time; there is no rush, no goal. Just be, just unravel and relax. Your throat, your jaw, your tongue are all quite natural, and loose and heavy. Let your jaw sag a little. Your face starts to relax, and your lips part slightly. Feel the muscles in your cheeks, and around your eyes – your skin starts to smooth out as the tension evaporates. Your eyes are focused on nothing – infinity. Your eyes carry a lot of tension – they are an important connection with the stress of the outside world. The muscles of your eyes are deep inside your head – place your gentle, tender awareness on them, feel them relax, utterly let go. Now move to your forehead, to the tension in the skin, and feel it smooth and relax. Gently place your attention on your scalp. Feel any hair. Relax across the fine network of muscles all across the top of your head. Relax your ears, feel them shift down a fraction of a millimetre. Turn your attention to the right side of your body. Come down the right side of your neck, spending time with the same muscles that you did on the left side. Come down to your

shoulder, and again let your neck and shoulder muscles totally let go. Feel the weight of your right arm, just hanging, just being. Go down through your elbow, down to your wrist, into the palm of your hand, your thumb, each finger, relaxing, and letting them be. Let the full weight of your arm, your hand, and each finger rest on whatever is supporting them. Gradually turn your attention to your feet. Feel where your feet are touching the floor. If you have bare feet, feel the texture of the floor, the connection with the ground, the temperature of the floor and the air around your feet. If you are wearing shoes, feel their texture, their shape, and their pressure points around your feet. Place your attention on your left foot, on each toe, on the ball of the foot, on the arch, and on the heel. Relax them; let them spread out under the weight of the leg. Now feel your left calf muscle. Be aware of any pain or tension, and let it pass. Let it go so your leg feels heavy and comfortable. Your whole body feels natural, and calm, and safe, and at ease. Feel your thigh, and the muscles on top, and underneath. Relax them, let the tension flow away. Your whole left leg feels heavy, just an object attached to your body. Go to your right foot, and again, place your attention on each toe, on the ball of the foot, on the arch, and on the heel. Let them relax and spread out under the whole weight of your leg. Slowly move up to your calf, and any pain or tension there. Let it pass; let it go, so your leg feels heavy and comfortable. Go up to the big muscles around your thigh, and let them rest, let them relax deeply. Feel the weight of both your legs, just being, quite still, held up by the floor. Now feel your buttocks, soft and spreading on the chair or cushion. Feel the weight of your back, pressing down into your hipbones, and the weight on the seat of your chair or cushion. Deeply relax these big muscles, on your seat and going up your back. Your back is tall and balanced, carrying the weight of your shoulders and head. Let them be still, let them rest. Come to the front of your body, to your chest. Listen to your breathing, feel the air entering through your nose, passing through your windpipe, and down into your lungs. Watch it, let it be, nothing is right or wrong. Come down to your abdomen, feel it moving as you breathe. Let your belly relax, and push out. Move down to your genitals, feel them, and accept them. Your whole body is safe, still.

You feel the relaxation right through your body. Your face is utterly relaxed, your forehead, your eyes, your lips. You feel it deeply, you feel it in your mind.

After doing this exercise, you will notice that physical relaxation leads to a state of calm and peace, in which your emotions settle down. Physical relaxation leads to mental relaxation, and then emotional quietening.

If you are having difficulty staying in touch with the parts of your body as you do the above exercise, then try touching the place where your attention is fixed. You can even imagine that you are giving yourself a massage, or that you are painting that body part with an enormous paintbrush. After you have done it a few times, you will find it easier to do the exercise mentally, and will not need to touch your body physically.

OBSTACLES TO MEDITATING

Too Easy? Meditation is so simple, so easy, and so straightforward that many people find it hard to believe that something so natural could effectively help them, when they have already tried dozens of pills, drugs, drinks and other ways of attempting to relax. Western culture does not promote simple, experiential cures. Rather, we are used to buying a pill, or paying for a tool or technique. We do not try meditation because it seems too cheap and too easy.

The Intellect. Meditation is about experiencing, feeling and being. It is not about intellectually understanding and achieving. You will not get it until you actually do it, experience it, let go of everything in your mind and just be.

It is the intellectual assessment and criticism of ideas that makes them seem complicated, and this has no part in meditation. Notice how the language in the relaxation exercise is simple, not intellectual. It is natural and easy.

In the West, we have an over-emphasis on using our minds to exert our conscious wills – in other words, most of us are control freaks! This emphasis on logical, linear, verbal exertion is not healthy, and extracts a heavy toll from the stress it induces

To meditate you start with some simple guides in your mind, do the simple act that goes with it, and experience the simple feelings. You watch your muscles relaxing. You experience it – deeply – without the intervention of critical thought. There is no goal, no measure, no hurry or rush, the whole thing is easy and natural, in its own time.

Effort. The harder you try, the less successful a meditator you will be. Yes, it requires discipline to find and spend the time, to sit through any discomfort and to persevere. However, in the middle of a meditation no effort is required. Nothing is forced, nothing has to be achieved or done. This also applies to your breathing. You cannot do deep belly breathing while totally relaxing all your muscles. Just let your breath come and go as it wants to, without thinking about it.

Just be patient, caring, gentle and loving with yourself. If you did not do an exercise properly, or you seem to be progressing slowly, do not feel upset or frustrated. It all takes time, and your mind will proceed as slowly or as fast as it wants to.

Restlessness is a difficulty for some newcomers. You may sit down ready to start, and then immediately find yourself fidgeting or wanting to move about. Your clothes may be uncomfortable or some other distraction may appear. If this is a problem, make yourself comfortable and do the exercise for only two or three minutes. Then have a rest or a stretch, before trying the exercise again. If you persevere, the restlessness will soon pass, and then you can attempt the exercises from less comfortable postures.

At first, you may only relax a few parts of the body, but as you repeat this exercise a number of times, the relaxation will become deeper, more extensive and more natural.

Chatter – Monkey Mind. Our minds are constantly active, assessing, criticising, judging, thinking, imagining, daydreaming and chattering. There is a constant dialogue going on – a voice that almost never stops. There are only short periods when it quietens – during sleep, during states of utter bliss, and during deep meditation. After you read this, you

may think you have the power to tell this voice to shut up, but it will still be chattering away. Try it – can you still your internal voice? I'll bet the chatter continues, with the voice saying: "See, I managed to do it! Look, my mind is quiet!"

Wandering Mind. Your mind tends to wander away as you are doing the exercise. One moment you are relaxing a part of your body, and the next instant you are thinking about tonight's dinner or a problem with your partner. Don't worry – everyone's mind wanders in this manner. When you notice that your mind has drifted away, gently acknowledge the new subject, and then come back to the exercise. Do not judge yourself or criticise yourself. It is quite normal and reasonable and everybody does it most of the time. Even experienced meditators find the majority of their meditation consists of wandering.

A meditation *object* is a common technique used to tether a wandering mind. An object is something you focus on in the early part of the meditation, while your mind is chattering and wandering. Many meditators use the breath. You can hear your breathing, and feel it at various points. Some people focus on the tip of the nose, feeling the rush of air with each in-breath and out-breath. Others feel the air in the throat, or in the top of the lungs. The breath is a particularly good object, and I recommend it for all beginners, and also for experienced meditators.

You can use other parts of your body as a meditation object, along with any of your senses. Try meditating on the tastes in your mouth, or the taste, feel and texture of the saliva on your tongue. You can also hold a tiny portion of food in your mouth – perhaps a seed, or some other food that will not dissolve too quickly.

Try using your heartbeat as an object. It is easy in a quiet environment. This is calming, as your heartbeat slows down along with the relaxation of your body. If you think about or try to measure your heartbeat while meditating, you are using your intellect, and will probably spoil the meditation! Some experienced meditators can slow their heartbeat at will (outside of their meditations), as a result of the connection they have forged with their hearts during their meditations.

A *mantra* is another common meditation object. This is a word or phrase that you repeat over and over. There are many different techniques. You can repeat the phrase in your mind, with your lips and tongue remaining still. Alternatively, you can say the phrase, chant, or sing it. Tibetan monks sing, hum and chant their mantras in the weirdest cacophony of sounds. Chanting is a beautiful way of getting out of your mind. Tuneless humming is another excellent technique.

Most ancient traditions have a science of sounds, based on mantras and chanting. These sounds evoke higher states of consciousness, when you chant them or repeat them. Here are some examples: aum, om mani padme hung, soham, shalom and om namah shivaya.

Candles, flowers, pebbles, the palm of your hand, plants, mountains or other visual meditation objects are also used as a focal point for the eye.

Sounds can also make a good meditation object. They should preferably be random and unpredictable. The sound of splashing water, the wind, the rain and a fire are suitable. Most music is not suitable as a meditation object because it is predictable and your mind can get attached to the melody. While it is quite relaxing to listen to a piece of music, it is unlikely to help you achieve deep and total relaxation. Music designed as a meditation object is random and unstructured. Other types of meditation music may be more structured, but still, they do not have a melody.

When you are in a state of total relaxation or regression (see below), a wandering mind is not a problem, but one of the delights of meditation. In such a state it is unlikely that your mind will focus on your problems and concerns. Instead, it is more like dreaming, where seemingly irrelevant thoughts and images can occur.

Letting Go. Our ancestors had to be on guard out in the wild or when on their own. Those who ignored their sense of sight, sound or smell did not survive. Survival required a constant level of awareness of the threats that were out there.

To relax, it is necessary to feel safe. When you feel safe and secure, you can go off duty and shut down the radar that is constantly on the lookout

for dangers. If you hear a noise in the next room, your mind does not click in and say, “Who is it? What are they doing?” It simply hears the noise in the next room; it has no significance and needs no thought.

Further meditation requires a sense of trust. Trust in yourself, and trust in the process. It is only in a position of trust and safety that you can become like a small child. You can then let go of the protection around you, put down your guard, and be yourself.

Sleeping. If you find yourself drifting off to sleep when you are doing the exercises, then use a more uncomfortable posture. This is why sitting is the most common meditation posture. Try not to lie down when you meditate - a bed is especially unsuitable.

Getting Soft. Do not worry about losing your keen or sharp edge. On the contrary, meditation helps you live without stress, tension and all the health problems that brings, while being more alert and effective. If you are able to relax, you will be more, not less, effective in your work and in your life. Relaxation is not about avoiding any issues, or becoming a vegetable. Rather, it is about learning how to live easily and effectively with the minimum of effort.

GOING FURTHER

The Gap Between the Breaths. When you are in a state of total relaxation and you have released the tension from all your muscles, your breathing still requires some muscular effort. You need to breathe, your heart needs to keep pumping, and your basic metabolism continues. Some yogis claim to achieve a state of suspended animation, but that is beyond the scope of this book.

Each in-breath requires muscular contraction, which may be automatic or conscious, depending upon where you have focused your attention. The out-breath also requires a small effort, just to let it go. However, there is a point between breaths where your body is completely still, and you can relax totally. If you are using your breath as a meditation object, as you relax, use the gap between your breaths as the object. It is a beautiful point of tranquillity.

Physical Activity. After some practise at relaxing, you can try meditating while you are actually doing things. To start with, try opening your eyes a little, and then closing them, perhaps in time with your breathing. As you breathe in, open your eyes, and close them as you breathe out. All the time, maintain deep relaxation in the rest of your body, with calm and peace in your mind. Next, try walking slowly and deliberately. Be conscious of the relaxation of the muscles in your face, and the calm of your mind. In a similar manner, you can progress to doing routine or rhythmical tasks while meditating.

The enlightened Indian master, Osho, developed a variety of active meditations. They are particularly suitable for Westerners, who tend to be more intellectual and rigid than Eastern people. Best known is the Dynamic Meditation, performed over an hour with its own music. Its five stages consist of energising breathing, explosive chaos, hammering the sex centre, holding a frozen posture, and a dancing celebration.

Many of Osho's meditations are based around dancing, although watching, listening, laughing, crying, sex and many other activities are involved. I thoroughly recommend them!

Regression. When you achieve a state of muscular relaxation, your mind calms, the chatter slows, you become less focused on your ego, and your emotions are checked. This state of physical and mental calm can lead to regression. Regression is quite a normal process – we have all previously been there. Your mind functions in a simpler, more primitive manner. It becomes less alert, so you are not concerned with your immediate surroundings. You are aware of sights, sounds and smells around you, but you do not engage them. Perhaps a heavy truck drives past, the room is filled with the sound of the diesel engine, the walls vibrate, and there is a smell of dust and diesel exhaust fumes. You are aware of them through your senses, but do not react to them.

When you are regressed, your intellect does not operate. The critical side of your mind closes down. When you become aware of the truck, with its noise and fumes, you do not judge it as good or bad. It just is.

Similarly, if a bird was singing the most exquisite song outside your window, or the perfume of a lily filled the room, you would not judge it as good or bad. It is simply there.

You have probably already experienced regression at times in your life. Think of an instance when you were living totally in the moment, unconcerned with the pressures and threats of the world. Many people achieve this state during orgasm. Other possibilities are when you are enjoying the company of a happy or sleeping infant, when you are relaxing in a hot bath, when you are lying in a field gazing at the clouds, or when you are totally engrossed in playing with an animal or a small child.

In regression you have no sense of time, no judgements, no criticisms or thinking or analysis. Just a total calm, drifting. A sense of abandonment, letting go of everything.

The sense of drifting and abandonment does not come easily and all at once. You may get a taste of it, then it stops, and then it will start again.

Dream State. Some people enter a dream state during total relaxation or regression. Unattached and seemingly irrelevant thoughts, pictures and moving images appear and float past, a kaleidoscope of colours can manifest, sounds and smells may occur, and people, known or unknown may appear or converse. This is a delightful and pleasant spot to go to, but it can also be a trap, holding you in this space and preventing you from continuing on your journey.

Bliss is a point of utter abandonment, drifting in timeless space, free of your body, the world, and all thought. At some stage it will just appear. You will be there, and it is quite beautiful. Some people describe it as going back to a pre-birth state, suspended safely in the amniotic fluid in your mother's body. You had never had a thought of any kind, nothing was good or bad or of the least concern. Life was just being, in a primitive pre-emotional state.

Then your mind will kick in and say "Hey, I've done it! I've achieved bliss!" and it will instantly go, and you have lost it.

Healing. When you have gained some meditation experience, you can warm or cool different parts of your body. Start meditating while holding a thermometer in your hand. Feel the cool air entering your nostrils, and flowing into your lungs. The thermometer is a piece of ice that you can barely hold. After a few minutes, come out of the meditation and check the temperature – it will probably have dropped 2-5°C. Go back into meditation, this time feeling the hot air in your chest. Think and feel heat coming from the thermometer, which is a glowing red coal in your hand. Again, come out of your meditation after a few minutes, and check the temperature. This time it will likely be a few degrees warmer.

When you place your attention on a body part and heat it up, the blood flow dramatically increases. This assists with the removal of toxins from that area. In some circumstances, the temperature increase is not just measurable – it is positively hot! You can combine these techniques with breathing exercises, particularly the *retention* part of the breathing cycle (see page 202). Breath retention can generate substantial heat.

With a feel for internal energy, you can focus wherever you want in your body, and apply that power to heal injuries, balance energies, enhance cerebral energy, stimulate glandular secretions, exchange energy with your sexual partner, and even dissolve tumours. We are now moving into the area of energy work. In *reiki*, for example, the energy and heat coming from the practitioner's hands are obvious even if they are not touching you.

SOME OTHER MEDITATION TECHNIQUES

Tantric Meditation

Tantra considers that every cell in your body and in every other living thing is alive and conscious. Everything is connected. *What is here, is elsewhere. What is not here, is nowhere*¹²⁰.

Tantra is an essentially feminine approach to life, in contrast to Taoism, which is male-centred. Consciousness does not belong to the brain alone, but to the entire body, and *elsewhere*. If you have good feelings in your mind, they will permeate and affect every cell in your body. That positive

energy will in turn radiate outwards from your being to other consciousness. Tantra views your body as a living temple, in which there is no border between the flesh and the spirit. Maintaining physical, mental and emotional health therefore becomes a duty. A creative energy, God, or Kundalini, is present everywhere, here and now.

Tantra is not a religion or dogma. It holds that the universe is concrete, and that you can merge with it through meditation. Tantric meditation does not exclude feelings; on the contrary, they are its driving force. Typical Tantric meditations often contemplate your origins, or the origins of the universe. Picture your mother, hold some good things about her; picture her mother, and her love and intentions for her child. Again, picture her mother, and so on.

Another theme could be lying in warm seawater on a deserted, calm, warm night, millions of years ago, before there were any dangers. There is a moon above, and gentle waves ebb and flow in time with your breathing. The ocean is a gigantic body, a cradle of life, your mother's womb.

Transcendental Meditation

TM™ is a peaceful meditation where you sit comfortably with your eyes closed for twenty minutes, twice each day. You silently repeat a personal mantra, given to you by your teacher. TM must be learned from a certified teacher, not from laypersons, a book, CD or video.

TM has a large worldwide following, and a lot of the published research on meditation seems to have examined TM rather than other meditation methods. The benefits of TM (and all other meditations in varying degrees) include deep relaxation, the elimination of stress, good health, improved thinking and creativity, and a clearer and happier outlook on all aspects of life.

Autogenics

The traditional meditation techniques described in this chapter need a minimum of twenty minutes a day to attain deep relaxation. If you plan to spend additional time exploring the new physical, mental, emotional and

spiritual worlds that this opens up, then these techniques are a good starting point. However, if your time is limited, and you are simply looking for a quick yet powerful tool to help you relax and detoxify at all levels, then Autogenics is worth trying.

The German psychiatrist, Johannes Schultz, developed this technique in the early 1930's. In essence, it works at an emotional level, and attains a state similar to regression. It can bring about physical, emotional and spiritual detoxification. Autogenics consists of a series of simple mental exercises that you can learn and integrate in a couple of weeks. Initially, it takes about 10-15 minutes to run through the exercise, and you need to do it three times each day. After you are able to attain a deep state of relaxation and calming of your emotions, you still need to practise it every day, but you can do it more quickly – even in 2-3 minutes if you are short of time. This is a technique that you can use every day – on the bus, in your office, or sitting at a café. Many people who have used this powerful stress-busting procedure have transformed their lives. They have a sense of great burdens being lifted away, freeing them of responsibilities and encumbers imposed by society. Some have felt a new release of creative energy, and the freedom to live their lives by their own values.

When you are in a relaxed and abandoned state, your body will naturally balance its life energies – this is called homeostasis. If you are stressed, homeostasis will calm you. If you feel confused, it will clear your mind. If you are fatigued, you will be refreshed. If you have high blood pressure, it will measurably fall. It improves the balance between the left and the right hemispheres of your brain, leading to both clearer thought and higher creativity. Recoveries from addictions such as alcohol, drugs and overeating have been reported, as well as the healing of stress-related illnesses such as asthma and skin inflammations.

The technique is quite simple. It dwells on feelings of heaviness and warmth, around your legs and arms. It also attends to your heartbeat, breathing, stomach and forehead. When you have finished the exercise, you come back to a healthy, everyday level of consciousness with a final step called *The Cancellation*, or *The Return*.

Begin the Autogenic exercise from a comfortable position, with your eyes closed. Take a deep breath, pause for a second, and then exhale completely. Breathe slowly and naturally, and feel the full weight of your body sinking into your chair or cushion. Indulge the feelings of warmth and heaviness. Start with your dominant arm (right or left). Slowly repeat each of the following phrases three times in your mind:

My right arm is heavy

Let go of the tension in your arm as you feel its weight and warmth.

My left arm is heavy

Both arms are heavy

My right leg is heavy

Continue to breathe slowly and naturally. Remember to repeat each phrase three times.

My left leg is heavy

Both legs are heavy

Let go of the tension in your legs.

Arms and legs heavy

Arms and legs warm

My breathing is calm and clear

My stomach is warm

My forehead is cool

Feel the relaxation in your scalp, your forehead, your eyes, your whole face.

Peace right through me

Enjoy the gentle calm throughout your body.

At the end of the exercise, bring yourself back to the state of consciousness in which you normally live with the *Cancellation* or *Return*. Quickly clench both your fists, take a deep breath, and lift your arms above your head, out sideways, or in front of you. Breathe out slowly, return your arms and unclenched fists to your sides, and lastly, open your eyes. For a few seconds: *Be here, now, with whatever is*, then continue with your day. If you feel you are not fully alert, repeat the cancellation.

As you gain practise with Autogenics, you can use some additional phrases:

My neck and shoulders are heavy

Followed by

I am at peace

The above is particularly effective at reducing stress.

My heartbeat is calm and regular

Feel your strong and regular heartbeat as you repeat this phrase three times.

After you have been practicing for a week or two, you will find that the phrase *My right arm is heavy* will put you in the Autogenic state within seconds. For most people, this will be the first time in their lives that they have had the means to relax in stressful situations.

Autogenics measurably lowers your heartbeat and blood pressure. It also gives you a physical, psychological and spiritual cleansing, smoothing out muscular tensions and cleansing thought patterns that may have been crippling you for years.

While this cleansing is taking place, there may be some side effects for a week or two. Your arms or legs may twitch, your stomach may rumble, or you may feel brief bouts of dizziness, sounds or visual effects. This is simply the release of the physical and emotional stresses that you have accumulated and stored in your body over your lifetime. You may have

sudden and inexplicable depression, joy or guilt rising to the surface. If you are prepared for these effects, you will know that they are simply part of the detoxification process that is leading you on to a life-changing renewal.

Autosuggestion

After you have practised the above relaxation exercise every day for a week or two, you should be able to attain a state of deep relaxation and regression. When you are in a state of regression, your mind accepts thoughts uncritically. The suggestions themselves must be simple and primitive, matching your state of mind. Your acceptance of ideas in this state depends upon your feelings toward the person making them, rather than the merits of the idea itself. During regression, your intellect closes down, and you are more like a small child who is open to suggestions from his or her parent. While you are regressed, you can use the process of suggestion to influence the working of your mind in a way that would be impossible if you were in your normal alert, critical and intellectual state. Autosuggestion is presenting new ideas to yourself while in a regressed state. Examples of new states that you may wish to take in include feeling confident, safe, virile, grateful, joyful and accepting. Disorders such as stuttering, nervous rashes, smoking, nail biting, addictions, irrational behaviour, blushing and sterility have all been successfully treated with autosuggestion. This apparent diversity of problems has a common cause: anxiety and stress.

The example trains of thought below are given merely as guides. Modify them according to your own needs. Prepare them and have them in your mind before you start to meditate. But remember that the procedure is only effective when you are thoroughly relaxed, and have let yourself regress into a primitive and uncritical mode.

Perhaps you are feeling apprehensive. Here are the thoughts that you might mull over while regressed:

Relaxed

Relaxed in all of my body

Relaxed in my face

Relaxed and calm

Calm in my mind

Calm right through me

Here is a thought train to use if you are feeling down or depressed:

Relaxed

Good to relax

Relaxed in all of my body

Good to feel relaxed

Wonderful feeling

Here is a possible thought train if you are feeling tense. Start with the general relaxation of your whole body. There is a close relationship between the muscles in your face and your state of mind. It is important to relax the muscles in your face and in your eye sockets, as this will have a strong bearing on your emotions and mental calm.

Relaxed

Whole of my body relaxed

It is in my face

Jaw is loose

Lips apart

Soft around eyes

Smooth face

Feel my mind relaxed

Relaxed mind

Perhaps you have been taking tranquilisers or sedatives, and want to use a natural means to relax, rather than drugs:

Relaxed

Natural to relax

My whole body relaxed

The natural way to gather strength

Clean body

Clean and calm and natural

You can use autosuggestion to heal a myriad of both mental and physical problems caused by stress. For example, use it to develop particular traits, such as acceptance, flexibility and clarity. Other maladies that are often cured include:

Insomnia: *heavy, drowsy, heavy all through me, heavy eyes*

Phobias: visualising yourself at ease in the phobic situation.

Sexual difficulties: *thighs relaxed, genitals relaxed, natural, good, feel it all through me*

Neuro-audio technologies

You can fast track your way to deep meditation with audio tapes or CDs that play brain wave entrainment sounds. Within minutes, most people can achieve quite a deep state of meditation. You listen to them through stereo headphones, while comfortably seated with your eyes closed. The sounds are mostly synthesised – deep, relaxing notes reminiscent of a church organ, rain, waterfalls, the wind, humming, thunder and bells.

Although both channels may appear to be the same, the system plays separate sounds into the left and right headphones that are slightly out of phase. The sounds are so immersive that they tend to carry you along.

They shift your brain waves out of the faster *beta* frequency, which is your normal state of awareness, to slower *alpha*, *theta* and *delta* frequencies. As you enter the slower states, the system can integrate disparate parts of your brain, and enhance your nervous system and several neurological functions. You will notice the first changes within hours, but over months and years of using the full program, significant physical, mental and emotional changes take place. The level of DHEA in your brain rises, and the level of cortisol in your body drops.

The system is like a continual but gentle challenge to your nervous system, its current structures and pathways. It forces the creation of new pathways between parts of your brain that had not been communicating optimally before. In particular, it improves the integration between the left and the right sides of your brain, resulting in whole brain thinking. You gain improved learning ability, analysis and creativity. It also relaxes you, providing a sense of ease and peace. Immediately after listening to the sounds, you will feel brighter, happier, and more centred, aware and creative.

The disadvantage of this method of meditation is that you will never reach the deepest places that unassisted meditation can eventually take you, mainly because unassisted meditation requires *intent*. Another problem is that you will not have a trigger to relax you and put you into a meditative state. When your emotions are running wild, or you are feeling stressed at work for example, it may not be possible to take time out with the headphones. The headphones are also quite loud and intense – not conducive to absolute, peaceful bliss. I personally think that these CDs are a great tool for enhancing your brain and nervous system, and should be used in addition to unassisted meditation.

Holosync is a good example of this technology. There are many other similar audios available, such as those sold by *The Synchronicity Foundation*, *Hemi-sync*, and *MindSync*.

BATHING, SAUNAS

People have sought hot baths since the ancient Egyptian and Assyrian dynasties, or even earlier. Ancient Roman culture and architecture was based around water and baths. In the last millennium, the Japanese, Eastern Europeans and Scandinavians have made bathing an important part of their culture. The Greeks, Germans, Eskimos, Irish, Mexicans, Mayans, North American Indians, Romans, Russians, Slavs and Turks all have a history of some form of perspiration bathing. Mineral hot springs have been popular for centuries, for relaxation and healing. Today, we expect access to hot and cold water as part of normal life.

Humans instinctively know that bathing in water is therapeutic. Each of us spent nine months suspended in fluid before birth.

Water:

- Hot baths are pleasurable, relaxing and have a spiritual dimension. Sondra Ray says, *"The convenient availability of hot running water in almost every house has done more for the spiritual evolution of our civilization than all the churches and metaphysical groups put together...."*^{37B}
- washes your skin, removing the toxins eliminated through your body's largest organ.
- stimulates your sense of touch. Splashing water on your face or wetting your hands or any other part of your body quickly rouses your skin and adrenal glands.
- warm water opens your pores, relaxes your nervous system and stimulates blood circulation by dilating your blood vessels. A larger volume of blood than normal then circulates near your skin. If you follow it with a short cold shower, it contracts your surface blood vessels and sends the warm blood back into your deeper tissues.

Cold water closes your pores and stimulates your nervous system. The combination of hot and cold improves your skin tone, and gives it a younger healthier appearance. If you have a warm bath or shower finished with cool water, it can increase your peripheral blood circulation,

stimulate your entire nervous system including the brain and spine, increase body metabolism and stimulate your immune system.

Cold Water has a rejuvenating effect on your skin. Splash your face with cool water twice a day, and always finish off a shower with thirty seconds of comfortably cold water. Keep this up throughout your life, and your skin will look many years younger.

Use as little **soap** as possible – only when you need to remove grease or intractable dirt on your skin. The idea of lathering your whole body with soap every day is harmful and wasteful. Your skin contains natural oils and bacteria that are beneficial. Most parts of your body need no more than water to wash. If you suffer from skin inflammation, you may find that abandoning the soap will help considerably. The best kind of soap is one that does not dry your skin. It should be slightly acid, in balance with your skin. The best soaps are free from deodorants, perfumes or other additives, and are made from simple ingredients that you can understand, like olive oil, cocoa butter or glycerine.

Skin oils. If you suffer from eczema, psoriasis, hives, dermatitis or other skin inflammations, obviously you need to address the root cause. Likely causes are the thrust of this whole book. However, you can often get relief or even a cure by using oil on your skin. You will need to experiment to find which type of oil is most effective for your particular skin. Usually the cheapest and most effective for eczema is castor oil. Apply a thin layer every day, or even twice a day. Leave it on for at least an hour. Wipe it off with a tissue or soft cloth, rather than washing it off. Other oils that can be effective in treating skin inflammations are coconut oil and rosehip oil.

The traditional **Yoga** approach to bathing uses cool water only. First, you do some exercise to warm your body – a yoga session, a brisk walk, or some other activity that will raise your pulse, breathing and body temperature. You are then ready to take a shower or bathe in cool water. It should be cool, but not cold to the point where it is unpleasant. You may find over the months that you can adapt to colder water, but let this happen naturally. Rub your body vigorously with your hands, and breathe

deeply. After a short wash, you can again rub yourself with your hands before drying. Dress warmly. You will feel rejuvenated and good all day.

The more modern approach to revitalising bathing does not first require you to exercise to warm your body. First, take a hot shower or bath for a few minutes. Follow it with gentle, cool water for half a minute. The idea is to cool the surface of your skin, but no deeper. Dry, dress warmly, and then spend a few minutes doing light exercise. The effect should be similar to that of Yoga bathing.

Spa baths and hot tubs offer a bathing experience in warm to hot water, typically under 40°C. Spas are usually made of plastic or acrylic, and are easy to clean. Tubs are typically made of wood, and have a warm look, feel and ambience. However, they are more difficult to clean, and tend to leak if allowed to dry out. Tubs and spas require good water hygiene, ideally using ultraviolet light, hydrogen peroxide, colloidal silver or ozone. Unfortunately chemicals and disinfectants such as chlorine are usually used, which negate their health aspects.

Saunas, sweatlodges, hot spas, baths and tubs are all means of raising your skin temperature, dilating your blood capillaries, increasing your heart rate and having a good sweat. Sweat carries out excess salt, along with other minerals, wastes and toxins. Chemically, sweat is similar to urine. Regular sweating takes some of the load off your liver and kidneys. Saunas are an effective treatment for the removal of toxins stored in lipid tissue (your fat).¹² Low to moderate saunas are very helpful in detoxification after exposure to pesticides and other chemicals.¹³¹

The heat increases your metabolism, and gives your heart and circulation a workout. This is especially valuable if you do not have the energy to exercise.

Ensure you drink enough to replace your fluids after sweating. If you want to drink whilst in the sauna, you may achieve the best detoxifying effects by sipping a warm weak green or herbal tea.

In Finland, the sauna is an integral part of their life, providing not only physical, but also mental and spiritual cleansing. Some Finns rank the sauna in holiness with the church, and regard the sauna stove as an altar.

Most homes and apartments have a sauna. The Finns alternate between dry and wet heat in their saunas. The dry heat is at a low humidity of around 10%, and a higher temperature (70°C-100°C). They then douse water on the stove or rocks, raising the humidity to 30% or more, and lowering the temperature to less than 50°C. They may have several 10-minute cycles of wet and dry, finishing each with a plunge into cold water or snow outside.

Some people prefer the dry heat; others find it can irritate their eyes or nasal passages. You can bear higher temperatures in dry heat. Steam is more enveloping; you sweat more and really feel the heat. If you have never done a sauna before, start gently and gradually increase the temperature over the weeks.

If you remain in a hot sauna for a long period, and continually breathe deeply, you will raise your body temperature. This is something you should only do under experienced supervision. Normally your body will regulate its internal temperature, but over a period of an hour, it can rise considerably. This is a self-induced artificial fever. Fever is a natural body response to viral infections or toxins. It will burn waste products and eliminate them through your skin, and raise your metabolism. The increased temperature will destroy a high proportion of the viruses in your body, and inhibit the further growth of invading viruses and bacteria. Some doctors routinely try to bring down the temperature of a fever with drugs, but unless the temperature is dangerously high, this simply counters nature's cure.

High temperatures also stimulate your glandular and immune systems. Saunas have a positive effect on simple infections, arthritis, allergies, congestion, headaches, skin disorders, insomnia and cancer.

I have witnessed sick people enter a sweatlodge and emerge much improved. They are particularly effective with viral infections, fever, and throat and lung infections. Check with your doctor before doing a sauna and especially a sweatlodge, particularly if you have high blood pressure or cardiovascular disease. Young children should not be subjected to high

temperatures as their heat regulating mechanisms are not fully developed and their skin and organs are more sensitive.

A sweatlodge is based on a North American Indian tradition. The participants sit in a circle inside a tepee or tent, in which a pile of rocks in the centre of the tent has been heated beforehand. One person leads the sweatlodge, splashing water on the rocks to generate steam, also burning herbs, grasses and oils on the rocks, and leading the chanting by the group. The sweatlodge is probably the hottest of all the sauna traditions – the chanting is necessary to force continued deep breathing by the participants. The deep breathing and long periods in the tent (one to two hours) raises the entire body temperature, not just the skin. This has the effect of a high fever, and is immensely cleansing. On exiting the tent, a cold swim or even a cold garden hose is necessary to lower your body temperature. You also need to drink enough water to replace the lost fluids. A sweatlodge is not a gentle practise that you do every few days; I restrict them to once every few weeks. It is also a cathartic spiritual experience – a strong meditation, a state of no-mind, and a confrontation of your deep fears. I have found sweatlodges to be the most physically, mentally and spiritually demanding and cleansing activity I have done in a short period.

BODYWORK

In the late 1940's the psychiatrist Rene Spitz discovered that more than 30% of babies at orphanages died in their first year, even though they had sufficient food, clothing, housing and medical care. They succumbed because they were denied the human essential of touch, love and communication.

The sheer pleasure of any touch and connection is a wonderful antidote to stress. A loving touch, stroke or hug is something we all need, every day. Massage, as a calming and healing form of touch, is a great stress reducer.

A skilled massage affects all aspects of your being – your body, mind and spirit – and can be deeply relaxing and transforming. It gives you some of the benefits of exercise, and several benefits of its own. Of course, a massage is in no way a substitute for exercise, which is one of the pillars of longevity.

Massage and other forms of bodywork can help to move wastes that have accumulated in your body. The massaged area warms up, muscles and lymph nodes are manipulated, and movement occurs through lymph vessels. A deep massage can release a high level of wastes, causing muscle soreness. The therapist should assess the patient's level of toxic accumulation, and decide on the level of work accordingly. It is a good idea to drink water during or after the massage, to help flush out the wastes.

Alexander Technique focuses on your posture – particularly your head, neck and spine. A Shakespearean actor named Frederick Matthias Alexander, who was having trouble projecting his voice, developed it around 1900. He could converse normally, but onstage his voice lost its power. When doctors were unable to help, he spent hours performing in front of a triple mirror, closely examining his posture. When he corrected his head, neck and spine, his acting voice took on a new power.

Today the Alexander technique is most popular among actors, singers, dancers, musicians and other performers. It uses exercise and gentle manipulation to undo the rigidity of adult muscles and posture, and regain the physical flexibility of children. In a session, you actively participate as you are guided through a series of movements while walking, sitting, standing and talking.

Practitioners claim that it reduces back pain, eliminates learning blocks, improves posture, and assists with both awareness and relaxation.

Feldenkrais. Moshe Feldenkrais was born in Russia in 1919. He worked for the British Admiralty during World War II in nuclear radiation research and anti-submarine technology. He was also a cartographer, a mechanical engineer, an educator and a black belt in judo. Plagued by injured knees

from a sports injury after the war, he studied neurophysiology, physics and neuropsychology while searching for an answer. His outcome was a complete healing, rather than the orthopaedic surgery his doctors had urged upon him.

His gentle training program improves flexibility, range of motion, coordination and function. Impressive results have been obtained with people suffering from neuromuscular disorders such as strokes, cerebral palsy and multiple sclerosis. Older people with rigid and inflexible bodies report easier and fuller movement, and improved coordination.

Depending on your needs, your instructor guides you through a series of simple movements, repeated several times. They might ask you, “What is your right shoulder doing as you perform this movement? Is it stooping forwards, or tilting to the left?” You quickly become aware of poor posture and restrictive movements. The technique retrains, and even restructures your nervous system, bypassing damaged areas. Nervous or psychological blockages are reintegrated into new patterns of movement. You can later continue practicing the movements without the instructor. In essence, the Feldenkrais method aims to bring you to what he called *functional integration* – rejuvenating both your body and your psyche.

Rolfing. This deep bodywork concentrates on your fascia – the connective tissue between your muscle and bone. Healthy fascia is moist, flexible and mobile, whereas chronic stress, toxicity and inactivity cause it to thicken, harden and lose its mobility. This is what is happening when you feel a knot in a neck or shoulder muscle.

A Rolfing program consists of ten one or two hour sessions, during which the practitioner uses deep pressure from fingers, palms and elbows to open up tense points. It is not a technique for the faint-hearted, as getting into the fascia’s knots can be temporarily painful. However, it is an effective method of releasing repressed material in parts of your body, such as stored fear, anger and resentment. A good practitioner can transform these holding patterns of bad posture and chronic pain, and bring your stored emotions to the surface. You will feel rejuvenated, both physically and psychologically. Your carriage will be more erect, and your body movements smoother and more relaxed.

Trager. Milton Trager was a doctor, acrobat, boxing trainer and follower of Maharishi Mahesh Yogi, who brought Ayurvedic medicine to America. In this approach, the practitioner rhythmically rocks, cradles, bounces and moves your body over a sixty to ninety minute session. Trager uses light touch and fine movements to help you feel what it is like to move freely and effortlessly. This gentle approach restores your sense of balance, both physically and emotionally. As well as being deeply relaxing, it reduces pain, loosens your joints and increases their range of movement. By building new connections between the nervous system and muscles, it is helpful for people with neuromuscular disorders such as muscular dystrophy, multiple sclerosis, cerebral palsy and spinal cord injuries, as well as a range of other diseases such as asthma, autism and polio.

Others. There are hundreds of different forms of bodywork available. *Shiatsu* is a traditional Japanese healing art that comes in many different forms. It is concerned with your body's energy flows, so most of the work focuses on your back and neck. The practitioner uses fingers, elbows, palms, arms and even feet to stretch, press and hold your body. Regular Shiatsu sessions feel great, and help to maintain your energy and relieve stress pains and nervous disorders.

Watsu is a water-based therapy, where the practitioner holds you while in a warm pool. Your body is gently manipulated and glided through a series of flowing movements. You also develop new breathing techniques and a high level of trust in the practitioner. The warm weightlessness and incredibly long periods you find yourself effortlessly holding your breath are deeply relaxing, and put you in touch with your body.

Chiropractic medicine and *osteopathy* focus on spinal misalignments.

Acupuncture is an extensive health care system developed over 2300 years. It stimulates the nervous system, releases hormones, and works with subtle energy channels throughout the body. It is an effective treatment for many problems with muscles, tendons, ligaments and fascia, resolving aches and pains, reducing inflammation and scar tissue, and boosting the immune system.

SKIN BRUSHING

Get yourself a natural vegetable or hog bristle brush, preferably with a long handle. You can brush virtually all your skin each day, with the exception of the most sensitive parts – your eyelids, nipples and genitals. The best time to brush is before you bath or shower, after which you can wash away skin flakes and debris. Dry skin brushing assists with the removal of toxins from your skin by stimulating your capillaries, oil and sweat glands, and scouring dirt and dry and encrusted skin and oil. It acts as a massage for lymphatic stimulation. Moreover, it feels great! Many European doctors recommend finishing with a cold shower, starting for ten seconds, and increasing over the weeks to thirty seconds as you get used to it. It makes your body feel alive and tingling, and stimulates your immune system. People who have done this over the seasons say that they have fewer instances of colds and ‘flu.

An alternative is wet brushing in the shower or bath with an abrasive flannel. Your grandparents probably used a flannel when they took a wash. The abrasiveness of the cloth does a far better cleaning job than your hands, lifting off dead skin flakes and opening pores.

LIVING THE LIFE YOU LOVE

YOUR EGO AND YOUR GROWTH

ARE YOU GROWING?

A healthy, youthful person is loving, aware of their own body and surroundings, and full of fun and humour.

An effective, fully functioning human being continues to grow throughout his or her life. Growth means being open and available to change. Growth means continually shedding the beliefs, assumptions, judgements and opinions that you have built up in your mind to represent who you are. You must be willing to examine and re-examine everything, including your most fundamental beliefs, and discard them if necessary.

If every aspect of your life is oriented towards evolution, you will shift the balance of forces in your being. Your cells, tissues, organs, body systems, mind, psychology and feelings will tap the universal power of growth and creativity through their full use and expression.

The opposite of growing is dying. Old, stagnating people are set in their ways, and have beliefs that are not open to change. How can you be a growing, evolving human being if you are absolutely convinced that you are right about your political persuasion, your religion, your area of expertise, your opinion of your neighbours and their kids, your boss, your partner, and other judgments that you have made? You may have studied a subject for years, or had a deep-seated persuasion for most of your life, but be open to the possibility that any belief is not in line with reality, and may not be serving you in what you want for your life.

In order to grow, it is important that you are open to changing your picture of who you are. This image of yourself and the expectations that

come with that image is what drives you. Most people spend their lives acting out what they have been taught to do, or what other people expect of them. They are polite, they do the right thing, and want to be good. Virtually all of us have hyperactive minds and egos, and we spend almost every waking minute trying to defend our image. We want to look good, and avoid looking bad.

It is a risky and thrilling process challenging this picture of yourself, detail by detail. Why should an image of yourself as interesting / boring / loud / quiet etc. limit you to behaving in that way? Is it serving you? Would you like to invent some new possibilities?

Growth also means noticing what is happening around you and paying attention to what your senses and feelings are telling you. It means paying attention to your body, your sense of connection to the earth, and standing firm, alert and balanced. You get real nourishment through touch, smell, taste, sound and sight - commonplace, everyday experiences. What you see and hear as an involved observer is likely to be closer to the truth than judgements and stories built up in your mind. How often have you made a judgement or built up an opinion only to find it was way off the mark when you visited the place or spoke directly to the people concerned?

It is an exciting process to ask these questions and be open to new and novel answers. Scary too. But as you start to let go of some of your beliefs and opinions and replace them with what the evidence around you indicates, or what you really want to do, your life becomes more aligned and effective. You save an enormous amount of thinking and stress, not worrying about what other people are thinking and whether you are doing the right thing.

YOUR EGO

Your ego is your mental images of who you are. It is not the real you. Rather, it comes from your upbringing and cultural conditioning. Your ego is a mental picture of yourself resulting from habituation by your society, culture, education, family, peers, workplace, and every other influence on your thinking. Usually, this image is inaccurate.

Your ego is obsessed with maintaining and enhancing favourable views of itself. It will protect and promote this favourable mental image at almost any cost. It thinks it is all that you are, and threats to the ego are threats to your very life.

Researchers have shown that admitting an unwise decision threatens the ego. To avoid that, people continue to slog on with failed courses of action despite mounting losses. Threatened egotism “makes people more prone to become entrapped in losing endeavours”. ¹¹⁰

Your ego wants to keep your past alive, it holds on to your history. After all, it says, your past is what makes you who you are today. If you are not happy now, your ego lets you use your past as an excuse. Your parents, your poor upbringing, that abusive teacher or sibling – your ego gives you many excuses for your lack of satisfaction today.

Your ego is also concerned about your future. After all, thinking about your future is thinking about your survival. If you are not happy now, it is only in the future that things can get better. The ego says, “When this event happens, then I will be happy and fulfilled.” The event may be more money, finding your soul mate, getting married, having children, the children growing up and leaving home, divorcing, losing weight, getting fit, a qualification, getting a promotion, retiring, or whatever. Most people spend their entire lives waiting, putting off fully living each day, hour and moment.

Your ego refuses to live in the present moment. It keeps you thinking, worrying, regretting, planning and explaining. It compares you to other people – mostly those who are doing better. It has agendas – everything it does has a reason. It rules your life by what other people might think, rather than by your own truth.

It is concerned with your status, with doing better than others, with your influence over people, and with seeking power and control. The ego seeks possessions, education, appearance, special abilities, relationships, personal and family history, and beliefs in political, national, racial and

religious ideals. It takes you away from living in the moment with enjoyment, fun and inspiration.

Your ego is active virtually all your waking hours, busy chattering away. There are scarcely more than a few minutes every day when it is not your driving force. Virtually every waking moment you spend trying to look good or avoid looking bad. “Rubbish”, I hear you say. “I love my family, and give much of my time and energy to them, and also to the community. I’m not concerned with my image while doing that.” However, consider every interaction you have with other people. Every word you say has an agenda, usually designed to protect your status, power and appearance, and to make you look as good as possible in the eyes of the other person.

Brad Blanton’s book *Radical Honesty*⁹² explains how we have been brainwashed since the day we were born to lie and to behave according to the expectations of others. We fail to talk straight with strangers, friends, family, lovers, bosses and workmates. Instead, our egos are evaluating, judging, assuming, feeling righteous, and guessing how to maintain our image, whilst paying little attention to the people we are with and our environment. It is not surprising that most Western people are living in their heads, unhappy, not living to their full potential, wishing and hoping, and pretending that everything is all right.

Quoting Brad: *“The rescue from our mind’s oppression comes from authentic contact and honest sharing with other human beings”*. He clearly explains how telling the truth can transform your life. Take the risk that others might be offended or shocked or get their feelings hurt, and tell the truth. The emotional burden of holding onto your secrets, resentments, assumptions, fears, angers and shames is making you sick and old. Clear, responsible and truthful communication will mean that others can trust what you say, and provide a foundation for real relationship. You will feel infinitely better after you have cleaned up your act.

In his book *The Power of Now*, Eckhart Tolle maintains that 80-90% of most people’s thinking is repetitive and useless.^{32A} This ego-driven thinking is mostly dysfunctional and negative. It inhibits the clearest type

of thinking, access to your true self and real creativity. This compulsive, addictive thinking is stressful and is responsible for ageing and degenerative diseases.

YOUR EMOTIONS

Emotions are your body's response to your thoughts. There is an emotion attached to every thought that you have. They are your body's hormonal and biochemical responses to your thoughts and mental images. Strong emotions are "the highs and lows of attachment or aversion, love or hate".¹³⁰

Your emotions also come from your truth or higher self. They are a reflection of your thought patterns, ego, beliefs and innate values.

The fight or flight response is an ancient reaction to a perceived threat or challenge, such as the sighting of a potential prey or predator. Your adrenal glands secrete adrenalin and cortisol, your heart beat increases, the bronchi of your lungs dilate, digestion shuts down, muscle strength is increased and your pupils dilate. Your body diverts energy from non-urgent tasks to readiness for physical exertion.

The crisis or challenge our early ancestors experienced was typically short-lived. Their high-energy response of running or fighting burned up the hormones and glucose in their blood. Such situations only occurred occasionally and when they passed, they quickly recovered their rest and digest state, with their heartbeat returning to normal, pupils contracting, and their digestive process re-starting.

Our hunter-gatherer ancestors needed this response. However, modern stresses are seldom physical threats where you need extra strength to run and throw rocks, after which you can relax again. Today's stresses are mostly ongoing emotions and conflicts in your head. Stresses such as job or financial insecurity, or waiting for the results of medical tests, may continue for months without respite. Frustration in the office, marital conflict, news on television, repressed rage and peer pressures can trigger biochemical stress responses hundreds of times each day. These stresses are ongoing, week after week, month after month, with no letup. If you

face continual stress, your body never has a chance to purge its stress toxins.

Your nervous, immune and glandular systems are intimately connected. Chronic stress is one of the causes of immune deficiency in today's world. Stress is the likely root cause of many degenerative diseases, particularly heart disease.¹²⁷ If you are suffering from destructive emotional peaks and troughs, the first thing to do is tackle the organic reasons why your emotions may be haywire. In particular, changing your diet may completely heal any emotional instability. You will also feel happier, stronger and more vital.

Conflict and negative emotions such as fear, anger, greed, selfishness, envy, sadness, anxiety, distrust, shame and guilt cause the secretion of adrenalin, cortisol and other hormones throughout your body. They drain your vitality and make you older. It is harmful to hold your emotions inside (usually in the heart or the stomach), painfully twisting and gnawing. Each emotion has a special relationship with specific organs in your body, and an excess of that emotion will damage that organ. Uncontrolled anger for example, damages the liver over time. Anger generates and wastes huge amounts of vital energy. Remember if you can, how you felt in the aftermath of a fight, argument or temper tantrum - both physically and mentally depleted.

Fear is associated with the kidneys. Chronic fear suppresses your immune functions by triggering the adrenal gland to secrete adrenaline and cortisone. If fear or any other source of stress becomes chronic, [adrenal exhaustion](#) follows and the victim suffers from low energy and immune deficiency that renders the body easy prey to formerly harmless microbes in the environment.

A study¹⁰³ found that the stress a typical married couple feels during an ordinary half-hour argument is enough to slow their bodies' ability to heal from minor wounds by at least one day. Moreover, if the couple are routinely hostile toward each other, it doubles the delay in healing. The researchers also concluded that after relatively minor arguments, their subjects were more susceptible to a range of degenerative diseases

including cardiovascular disease, osteoporosis, arthritis and type-2 diabetes.

It is vital that you are aware of your negative emotions and can acknowledge them. If you suppress them, they will not go away. Rather, they will build-up like a pressure cooker and eventually manifest physically. They will also trigger unpleasant mirror-responses in other people.

Since early childhood, our society has taught us to repress our emotions, to hide our feelings, and to wear a mask that covers our truthful selves. However, as you learn to feel your emotions, you will see the truth behind them. Greed, fear, anger, guilt, shame and other negative emotions always come from your own conditioning, beliefs, and life experience. Other people and your life's circumstances are **never** the real cause of your feelings, so there is no need to indulge in blame, denial and games.

As you become conscious of your emotions, you will start to see the truth behind them. Perhaps your anger is a cover-up for insecurity, or you feel scared? When you see that you have been carrying around these deep emotions for many years, it is easier to see that they come from you, and are not caused by the people or things in your life.

Communication is a vital emotional outlet. It is so important to tell the truth and say what is really going on for you. Tell the truth to yourself and others – risking the listener's anger or condemnation. Usually, you will find your fears are unfounded. More importantly, your withheld feelings will not build-up to festering disease-causing resentments.

Emotions will no longer dominate you. Your presence and attention will grow. You will enjoy a feeling of ease and acceptance rather than feeling trapped in life's problems and dramas. It is one of the keys to living in the moment, living in the now.

If your positive emotions are strangers to you, be on the lookout for them as well. Not feeling and expressing your positive emotions will make you dry, icy or lifeless. To a conditioned and blocked mind, feeling and openly

expressing joy, love and trust is as difficult as feeling the negative emotions. Consciously enjoy emotions like compassion, insight, inspiration and revelation, and acknowledge yourself for doing this.

Depression, anger, sadness and negative emotions often have a nutritional cause. It is difficult to stress a healthy body, whereas it takes little to set off someone who is run-down or out of balance. People who have made the lifestyle, diet and exercise changes recommended in *Grow Youthful* are unlikely to suffer from depression.

Your emotions will tend to fluctuate wildly if your blood glucose and insulin levels are out of balance (page 225). One of the initial benefits you will notice when following the diet I recommend is that your emotions and energy level will stabilise. This is the result of your blood glucose level stabilising, rather than oscillating through the peaks and troughs caused by eating sugar and refined carbohydrates.

If you are still depressed or stuck in negative emotions, meditation, discussed on page 357, will help. It is profoundly calming and de-stressing, and helps you regain perspective in your life. It also provides the opportunity to watch your emotions and your behaviour, almost as if you are watching someone else. When you can stop and see what you are doing, it becomes clear that you have a choice not to continue to behave that way.

LIVING IN THE MOMENT

The present moment never ages. It is for action, doing and being. You can only fully express and feel yourself right now. This instant is where you obtain the maximum joy and satisfaction in your life.

If you spend a lot of time living in your past, you will age rapidly. Check it out for yourself. Those people who often talk and think about their past are not young and vital. If you spend much time dwelling on your memories, both good and bad, it prevents you from living in the present moment. Your cherished thoughts, achievements, adventures, experiences, regrets, guilt, resentment, sadness and frustrations are long gone. The dreadful things that you went through and your victim story

are only a tape playing in your head. *Let your past go.* Only refer to it when it is relevant to what you are doing now.

You cannot find yourself by immersing yourself in your past. The real you is the being living in this moment. If you delve into your past, you will find it is a bottomless pit – there is always more. When you release your past and all the explanations and excuses that go with it, you enjoy a new level of freedom. It lets you live in the present moment, which is all you have anyway.

If you spend a lot of time and energy focusing on your future, you will feel stressed. Fear of change, loss, and death is one of the prime causes of ageing and degeneration. Your ego diverts your mind with hundreds of things that may or may not happen in the future, instead of letting you get on with living right now.

Stress occurs when you are so busy getting to some place in the future that the present moment is lost - reduced to a means of getting there. So many of us waste our lives working for something in the future and never enjoying the NOW. It becomes a habit, and even when what we have worked so hard for arrives, we do not stop to enjoy it. We are already working for the next thing. Instead, become aware of the wonderful life around you and in you each moment, and enjoy it for its own sake, without its link to the future.

Since ancient times, spiritual masters of all traditions have pointed to living in the now as the key to solving your problems. You cannot be both unhappy, and totally present in this moment. It is only when your mind holds on to your past, or dwells on your future, that your problems arise. Try it – focus your attention on the immediate moment, and say out aloud what problem you have in that very second. The answer: you had no problem in that particular second.

Time is the cause of your suffering and your troubles. Time is the essence of Western society, and civilisation. Our society teaches us that we are time bound. Free from time, you can pursue your goals with a joyful and playful energy.

LAUGHTER

Laughter is not about jokes. We laugh most when talking to our friends. It is actually a form of communication. We laugh to show that we like someone, and that we understand them or “get” them.

Laughter comes with play. Play means having fun and being childlike and living in the innocent, carefree world of a child. It means being yourself (totally) and living in the moment. It is not concerned with analysing or thinking.

Laughter lightens life’s loads and is the best medicine. It gives you some of the benefits of good breathing, aerobic exercise and relaxation. A deep belly laugh increases the oxygen intake in your lungs and cells, giving your abdominal muscles, diaphragm and heart a healthy workout. It relaxes you, takes your mind off your concerns, and makes you more appealing socially. Laughter stimulates your brain to produce endorphins, natural opiates that lift you up and make you feel good.

Many of the benefits of laughter are similar to those you get from deep breathing (page 207). However, it is not the same as deep breathing so keep up your laughing every day. The oxygen bath that you get from laughing energises your cells, and induces a feeling of exuberance that lasts well after you stop laughing. Laughing is an anti-ageing therapy, and it makes you look younger by relaxing your face.

There are measurable physical differences between people who laugh a lot, and those who do not. The blood of laughers is a brighter red, and they have a healthy glow to their skin.

If you find it difficult laughing, or you just want some company while you practise laughing, then join a laughter club. Sometimes it is easier to laugh when others around you are laughing - they provide good company and practical support. The idea originated in India with Dr Madan Kataria, a Bombay physician. Initially he gathered a few friends together for a good laugh every morning, but it rapidly grew to over 400 groups in Bombay alone. People from all walks of life meet at parks, beaches and parking lots every morning for 20 minutes. Dr Kataria says that, just as a

sense of humour leads to more laughter, the corollary is also true: laughter helps us develop our sense of humour.

When you are starting to laugh, it is quite OK to fake it. Just keep laughing, keep at it. Eventually you may laugh at yourself, and the stupidity of the situation.

The routine at most laughter clubs starts with some deep breathing exercises, and then a group chant in unison, "Ho-Ho-Ha-Ha-Ho-Ho..." which slowly increases in speed. Participants run through a medley of different types of laughs (such as a hearty laugh, cocktail laugh and dancing laugh). The forced laughter soon gives way to spontaneous giggles, chuckles and guffaws, and members leave the session feeling refreshed, relaxed and revitalized.

There are now more than 1000 laughter clubs in cities all around the world. Many members claim that the laughter clubs have changed their entire outlook on life. Most of them say they have improved their self-confidence, their interpersonal relations, and their ability to concentrate. Members maintain that as little as fifteen seconds of laughter every day gives you many benefits that include lowering your cortisol level and stimulating your glandular and immune systems.

CRYING

Have you ever found yourself starting to cry on what should be a happy, joyful event? Most of us have so much pain and sadness bottled up that it takes advantage of any emotional occasion to worm its way out.

Society does not encourage crying. Have you ever cried in public? I'll bet everyone nearby felt embarrassed and uncomfortable. Even when a child cries, most parents immediately try to console the little one. Seldom do they let the child go into, and through the source of pain or frustration. Parents do not like their children to be unhappy or show painful emotions. Perhaps this is because the parents themselves are repressing the same emotions. Boys especially are taught not to cry – it shows weakness, rather than strength and masculinity.

Rational, left-brain types, especially men, have great difficulty crying. A man who cries in the workplace, on the sports field, or down at the pub is regarded as weak, effeminate and weird by his mates (if he has any). Men in particular carry armour, or a mask, behind which they hide their real feelings and emotions.

The result is that we live in a society where we suppress our real (negative) feelings. We do not feel free to cry when feeling sad, frustrated or angry, or to shout, wave our arms, and act out our feelings with our bodies.

We even repress positive emotions around other adults, and in the worst cases, all the time. How often do you whoop with joy, jump on the spot with happy anticipation, dance spontaneously, hug your friends and sing in the street?

The release of your emotions will help you come alive. Cry, laugh, shout with anger, and scream. Of course, let it out appropriately. Mostly, scream or shout into a pillow. Not too many people deserve, or want to receive that!

Crying is an invaluable means of psychological and physical release, especially from depression or bereavement. Tears have another huge benefit. Genuine crying tears contain toxic waste products related to stress reactions (as opposed to tears caused by strong wind or chopping onions, which are mainly salt and water.) The tears, mucus, and rhythmic action on the lungs and gut that come with a good cry are all powerful means of eliminating the hormonal by-products of emotions.

This is probably why many women can handle stress and disappointments better than men can – they are able to release their emotions by crying and talking about their feelings. Women can get it out of their systems, because society does not place the same constraints of emotion on women, as it does on men.

In his book *Cure by Crying*, Thomas A. Stone says, “the more you cry, the more your mind will heal itself.”³³ Neurosis is stored traumatic memories. The worse the memory (especially at a young age), the more likely it is to

be blocked. The most typical blocked memories are of physical, verbal or sexual abuse as a young child.

The majority of people suffer from some level of neurosis. Most of us have at least some painful memories that we have blocked and can no longer remember. Holding these memories and keeping them blocked takes a lot of energy. In a neurotic person, these forces manifest as anger, depression, nervousness or irritation. Other symptoms include headaches, shyness, insomnia and problems relating to the opposite sex. Over time, the neurosis shows as inflammation, digestive problems and other degenerative diseases. Not being aware of the real cause, the person blames it on their job, spouse, money or some other conflict or problem.

Neurotics do not know that they are neurotic. They cannot remember their traumas. Their lack of awareness is their biggest obstacle to being cured.

Stone recommends a form of primal therapy to uncover your repressed memories – going back to your earliest childhood, and re-living those times. It is helpful to have a friend or a therapist versed in the method to guide you. As you cry and the events surface, face them, cry about them, and be with them. The events will then lose their power over you as you let go of the past.

Crying often cures symptoms that have lasted for years.

LEADING AN EFFECTIVE LIFE

RESPONSIBILITY

Think back to when you were a little child – the security, comfort and total lack of responsibility of being looked after by your parents or guardian. Most of us had everything provided. Our food, friends, housing, recreation, clothing and virtually every other aspect of our lives was available with little or no effort.

Unfortunately, few people completely grow out of this passive dependence, maturing to take full responsibility for every aspect of their lives. They want the government, community leaders, their family, churches, schools, doctors, scientists, universities, the television and the media to take responsibility for their health, safety, welfare, education, bringing up their children, and all other challenges in life that require hard work, concentrated thinking, decisions and responsibility. When things go wrong, they look for the quick fix, the easy solution, and of course, someone to blame. Anyone to blame except himself or herself.

Real maturity only begins when you get, really get, that no one is coming to the rescue. Mummy or daddy won' always be there to look after you and guide you. Nor will any other teacher or other authority figure. This is the starting point for leading an effective life.

It is disastrous to assume that the government, health authorities, food producers, regulators, medical boards, doctors, the education system or any other authorities have your best interests at heart. *They operate for the benefit of themselves, not their clients or customers.* The profits of the processed food, drug and medical industries determine their priorities. They are rich enough to exert financial and political pressures at the highest levels.

Several industries have a lot to lose if we, as a society start to challenge how we think about our health and wellbeing. This book shows how the processed / packaged / fast food industries, producers of personal and household products, the pharmaceutical drug industry, and recreational drugs are largely responsible for the poor health of our population. They profit from the current situation and have little incentive to change.

When people do not take responsibility for their lives, they suffer the consequences. The vast numbers of people who unthinkingly trust their wellbeing to health professionals, drug companies, medical insurance and hospitals are paying the price with sick, ageing bodies. Parents who hand over the upbringing of their children to teachers, schools, other parents, and government remedial departments are paying the price as their children develop to less than their potential. Those who do not take responsibility have many excuses and blame other people.

The willingness to sue on the slightest pretext is another symptom of the lack of personal responsibility today. People who are injured or suffer a loss through their own stupidity or lack of attention are quick to blame anyone but themselves.

Taking full responsibility for your life and everything that happens in it is one of the greatest steps to power, confidence and freedom you will ever take. You take back control of your life. All the choices are yours. You have the power to choose the life that you love, and how it unfolds, rather than living according to the agendas of other people.

Consider this. After a disagreement with someone, you say to him or her, “You hurt my feelings.” In this case, you have placed all the responsibility on the other person, and taken none for yourself. You have given away all your power, because they completely control the situation, and you are powerless to influence it. You are just a victim.

If you say to him or her, “I feel hurt”, that is an improvement. In this case, you are not blaming the other person. However, you are still not taking any responsibility, and so will still feel powerless. It is only when you acknowledge to yourself that you chose to feel hurt, that you can take control of the situation, how you feel, and how you behave.

Don’t take things personally. People say and do things because that is the way they are. Their behaviour is a reflection of their upbringing, their beliefs and their situation. Everything others do and say is not about you – it’s about them! If you take things personally then you may need to defend yourself, and prove that you are right and others wrong. Taking things personally – good and bad – is childish and self-centred.

Effective people who take responsibility for creating their lives do not react against their circumstances and the people around them. They never say “if only ...” or “I wish ...” Rather than having their lives created by other people or the randomness of their circumstances, they channel their energy into their own priorities.

Your life today is the sum total of what you have done, of your own thoughts and actions. Whatever the reasons, justifications and excuses, it

is you, and only you that have made you who you are right now. Accept responsibility for creating your life – what are you going to do, starting this moment, to become the person that you want to be? The exciting thing is that the power to be whoever you want to be is in your hands and your hands alone.

Integrity is doing what you said you would do, when you said you would do it. When you say something, you always know it is the truth. Integrity means being on time for an appointment you have made, or fully completing a task when you said you would – no excuses. Integrity also applies to yourself – when you tell yourself that you are going to do something, you do it rather than let it slip away.

If you are not going to do something, or if you are not going to complete a task on time, then say so. You gain power and self-confidence by seeing your life unfold the way that you said it would.

“...it is what people do, not what they say or write, that predicts (their) future.”⁵³

WHAT DO YOU REALLY WANT TO DO?

Are you living a life you love? Does it feel rich and effective, with everything that is important to you in place or in the process of being realized? On the other hand, do you feel overwhelmed by demands on your time and energy, or that you have little personal power?

If you woke up tomorrow morning with many millions of dollars in your bank account, would it radically change the way you earn a living, or what you do for money? If your answer is an emphatic “Yes, yes, yes!” then I suggest that there is something seriously out of alignment in your life right now. The correct answer to this question is that you would continue doing what you are already doing – the money would simply let you do those things in a more luxurious way.

With your new millions, you could go and live in a breathtaking home on a tropical island, but what then? After a holiday, a new car or two, and some other toys, how would you fill your time? Would you like to travel, study something, create something, grow in some way, have many

friends, or would you seek solitude? What are your real interests? What seems like play? If you could do anything, what would you do?

WHY ARE YOU NOT DOING THAT NOW? The excuses that you have, when you look at them in truth, are probably pathetic.

Kahil Gibran writes *On Work* in *The Prophet*, “*And if you cannot work with love but only with distaste, it is better that you should leave your work and sit at the gate of the temple and take alms of those who work with joy. For if you bake bread with indifference, you bake a bitter bread.*”

Many people complain that they do not have goals about which they are passionate, or desires that excite them. The truth is that there are probably hundreds of activities that might suit. Passion is a feeling you get from committing to and then mastering a skill. You create your passions rather than having them magically handed to you (without any hard work).

If you are frozen with indecision, then **CHOOSE!** Any decision is acceptable when you cannot decide. When you make a choice and a commitment, your life will move. You gain experience, learn new skills, and your life has purpose.

It is possible that your choices will later change. You may no longer want something that you chose previously. In that case, choose something different. At least you have gained some experience from the previous choice. However, it is important that you do not give up because it is too hard or taking too long. Learning to play a musical instrument, learning a new language, creating a successful business or career, and many other worthy tasks can take years of effort. At times when there seems to be little progress, important assimilation and consolidation can be taking place.

Work to serve, not to get ahead of others. If your work is consistent with what you have chosen for your life, and you are being true to yourself, that changes everything. Even the most menial or unpleasant work is

quite acceptable when it is part of a higher purpose. It no longer makes you tired or ages you. Instead, it is rejuvenation, a service, even an indulgence!

Do what you really want to do, as if you knew you could not fail. This attitude will free you from so many self-imposed limitations. *Do not be attached to the outcome.* Go for it with a passion, work with integrity, immerse yourself in it, and whatever happens, happens.

YOUR CHOICES

Here is one of the most important and productive tasks that you can do in your whole life. Write a list of the things that you want, that are important to you. Start by writing your ultimate choices. Ultimate choices are things that you want in themselves. They are not intermediate choices, stepping stones leading on to something else. For example, an ultimate choice may be “I want good health” or “I want a satisfying and loving relationship”. An intermediate choice supporting good health could be choosing to lose weight, and supporting that would be eating more nourishing food or joining a gym.

Here are some common ultimate choices:

- health or sickness
- life or death
- abundance or poverty
- growth or stagnation
- security and safety or living on the edge
- power or dependence
- recognition or anonymity
- peace or conflict
- love or hate

You may be surprised to see that some choices seem to be quite negative. Who would choose sickness instead of health, death instead of life, or poverty instead of abundance? However, the benefits of being sick might include sympathy, the attention of family and friends, avoiding hard work or exercise, or financial advantages. Death is a choice for people who have priorities higher than life itself.¹³ Placing eternal truths, God or principles like freedom, nation or justice ahead of life can make death acceptable. The benefits of poverty might include a feeling of righteousness, the need to be accepted by (poor) friends and family, or your belief that wealth is evil or that you don't deserve to be rich.

It is not easy to admit that you have made negative choices for your life. The clue is that if you have areas of your life where you feel disempowered or frustrated, then you may have chosen to be that way. Identifying your negative choices requires total honesty when you look at your life, examining exactly what you have created in the simplest terms. Often a loving and brutally honest friend or a young child will help you to see the way you really are. If you were born with a handicap or injured in an accident, are you indulging in it?

It is important that you go through this process of honestly describing your life in this present moment. Do not try to explain or justify anything. Keep it short and simple. For example, "I have a sore back", "I have a ten year old red station wagon", "I enjoy my work" and "I feel underpaid".

Next, write a list of the areas where you would like things to be different (where you feel disempowered or frustrated). Keep it short, to the point, and without any explanations. It is quite OK if it shows you to be greedy, controlling, needy, jealous, self-centred or fearful. You can also include in your list things that you would like to stay the same. Examples include: "I would like my son to talk with me every day", "I would like my partner to complement me for the way I look", "I like my neighbourhood", and "I want to earn twice my current earnings".

Write your list of choices under headings such as Health, Personal Development, Partner, Social and Fun, Spiritual, Career, Financial, Family, Location and Lifestyle – whatever is important to you.

If you have choices that conflict with each other, reconcile them with your ultimate choices. Perhaps you want to spend more time with your family, more time developing your career, and more time reading. Which of these further your most important ultimate choices? Where are you wasting time that does not further one of your ultimate choices?

It is important that you state each choice in positive terms; what you want, rather than do not want. For example, “I will invite my neighbours to tea on Friday” rather than, “I don’t want to be lonely.” You should be able to measure each choice, and know quite clearly whether you have achieved it or not. Choices are useless if you phrase them in weak, vague statements of something you hope to do (“I will try to”, “I would like to”, “perhaps”, “sometime”). Nor are they helpful if they are part of your journey or process – “getting in touch with yourself”, “becoming a better person” or “overcoming self-sabotage” are non-measurable processes on the way to other choices. Your intermediate choices should be clear, positive, measurable tasks that you can do now or at a specific time.

Choices that involve changing the behaviour of other people are likely to be ineffective, or even counterproductive. “I want Johnny to be more” is an attempt to impose your will on Johnny. Instead, your choices should be about your own behaviour.

The last step in making up this list is to review each choice that you have written down, and ask yourself “if it was offered to me right now, would I take it?” If your answer is a deep and thirsty YES, then it is a valid choice. However, if your answer is couched with ifs and buts and maybes and not yet then remove it from your list.

This is not a trivial task. It can take days of effort. Your ultimate choices are particularly significant, because you hold them in your subconscious, and they are charged with emotion. Write them down, declare them aloud, and share them with other people.

It is a good idea to repeat this exercise at least once a year. Your dreams and desires change continually. You will also be delighted to find that you can tick off many items as time goes by. I have kept written goals for several decades, and it is most gratifying to go back and see how most of

them are now in my life. The few that are not are no longer important to me.

A good place to put your completed list of choices is in your diary. If you do not have a diary get one and use it every day.

WHAT IS SUCCESS?

Professor Michael Marmot has shown that your position in the social hierarchy has a strong and direct effect on your length of life and state of health.¹⁰² Living in a large house in a beautiful and safe neighbourhood, being wealthy, working in a managerial position, being tall and attractive, having many positive social relationships, being well educated, and generally having a prestigious high status life are all strongly correlated with health and longevity.

Conversely, as you move down the social ladder, your health and longevity deteriorate. Those at the bottom of the heap, even in the developed world with sufficient food, shelter and clothing, suffer markedly shorter lives and higher levels of sickness. The disadvantages of being lower class and having less compared with others around them, weigh heavily on life. They die younger and have higher risks of most diseases, as well as suicides, accidents and violent deaths.^{102A} It is not true that people at the top suffer higher levels of stress and heart disease.^{102B}

This relationship between status and health is on a sliding scale. As you move slightly up or down, your health and life expectancy will change accordingly.

Professor Marmot proposes that there are two reasons why your position in society is so important. Firstly, if you are at the top you have more autonomy or control over your life. Secondly, the higher up you are, the more opportunities you have for “full social engagement and participation.”

He provides data showing that the poorest households in the USA have four times more risk of death than the richest. His study of the British civil service showed a similar risk of death between its highest and lowest

ranks. Other researchers have shown that the effect applies around the world, in both developed and less developed countries.

Marriage. A survey across 16 developed countries showed that unmarried men had twice the mortality of married men. Unmarried women had one and a half times the mortality of those who were married.

Married people, especially men, live up to three years longer.¹⁴⁶ However, the quality of the marriage is critical, because being in a bad relationship shortens the lifespan of both partners. A long-term committed and happy relationship with sex three times per week can make the woman in particular look up to ten years younger.¹⁴⁶ Other studies show that it is not so much being married that gives the benefits, but the love, the opportunities to give, and the support, intimacy and family networks that usually come with marriage.

BALANCE & FLOW

Modern Western culture is typified by excesses, taking things to the extreme. Be it money, food, work, leisure, exercise, entertainment, study or whatever, we tend to give all for it or ignore it. Seldom do we feel a sense of balance, ease and flow. We often choose to over-ride our instincts, continuing to do something long after it no longer feels right. Have you ever pushed yourself to stay awake and keep doing something long after feeling exhausted, or continued eating after feeling full and knowing that you have had enough? Have you ever watched a computer screen or a television set until your eyes hurt, continued driving when your attention has been low, or had another drink when the previous one was enough?

In every area of life, the key to health and mastery is balance. No aspect of your life should dominate the others, otherwise it becomes an obsession or addiction. For example, work often dominates the lives of many people. They do not work for themselves, but instead are bound by someone else's goals. Their job takes a large portion of their waking hours, to the exclusion of family, friends, exercise, good food, sex, relaxation and other components of a rich life. Other psychological

addictions include TV, shopping, looking good, sex, control, suffering, melodrama and perfection.

If you choose to live a balanced life, you will no longer push it to extremes. You will follow a daily and weekly routine, with periods of activity that include work, play, and rest. The rising and the setting of the sun will be part of a daily cycle that guides your sleep and waking.

The irony is that you will become more efficient, stronger, healthier, creative, have greater stamina and so on, if you pursue these traits from a balanced life, rather than a life of extreme dedication, sacrifice and hard work. When you work long hours, your efficiency and creativity falls off after a certain point. It gets worse if you continue over-working day after day. When you make time for relaxation, rest, friends, family and self-nurturing you become a more effective person.

Obviously, it is possible to go out of balance in the other direction. Long periods of excessive rest and sleep, unfilled, aimless days, and hanging out without work for months soon take their toll. Again, your efficiency and creativity fall away.

One of the secrets of health and longevity is the establishment of body rhythms that match the ebb and flow of energy in our lives. It is important to have regular daily cycles. Wake at more or less the same time each day, go to the toilet, go for a walk, have your meals, work, and go to bed at roughly the same time.

It takes time to get to know your body. Over the years, you get to know what feels best for you and when you have the most energy. Once you have a routine that feels good stay with it.

Routine in your day is also a powerful tool for reducing the stress of time pressure. A daily routine is a plan or a framework, allocating time to tasks with which you are familiar. You know how long it takes to travel to a certain place, prepare and eat a meal, and do a piece of work or exercise. Planning your day removes the time stress. As you do each task, be totally with that task, living in the moment.

However, do not become dependent on your routines. If you have an unexpected event that upsets your schedule, it is important that if you choose, you can continue to function at every level. An unexpected visitor, a breakage in the kitchen or a small loss should not disrupt your life. This is so important that it is necessary deliberately to break your routines on a regular basis. Take an annual holiday, take one day a week where you do not work or follow your normal routines, and make a point of visiting new places, meeting new people, and putting yourself out into the unknown.

THE POWER OF YOUR THOUGHTS

Life organises itself to suit the way you view it. You will attract into your life whatever you think about the most frequently, imagine the most vividly, believe in the most strongly, have the strongest feelings about, and genuinely expect to happen. If your essence is positive, if you are an optimist by nature, and if your expectations are of health, wealth and abundance, then this is what you will create for yourself.

Your mind works in pictures. When you say to yourself, “I don’t want to forget my glasses”, you get a mental picture of forgetting them, and so you are more likely to forget them. If you tell yourself, “I want to remember my glasses”, then you have a picture in your mind of remembering them, and you are likely to remember.

Say to yourself that you cannot remember names, or that you are a poor speller, and guess what – you will be just that. When you say to your children, “Don’t forget to bring your shoes”, then you are almost guaranteeing that they will forget them. If you have a large amount of money in your wallet, and you concentrate on *not* losing it, then its loss is likely. If you have a history of cancer in your family, and you think about it often, reading about it and focusing on what to do to protect yourself, then you may develop that cancer. If you feel that life is tough, lonely, competitive or a struggle, then that is the kind of life you will create for yourself.

Even if you do not want something you think about and imagine a lot, you will get it. Your physical reality is a mirror of your thought patterns. If you dwell on your fears, then they are likely to happen. *Change the way you think, and you will change your life.*

If you dwell on wants, needs, and dissatisfaction, then this is what you will create in your life (wants and needs). Your subconscious takes your beliefs, feelings and the images you hold in your mind, and gives them physical shape in the material world. Most of your subconscious was formed in your infancy and young childhood. The words and actions of your parents, siblings and those around you programmed your deepest beliefs. No matter how accurate or inaccurate those beliefs are, that is the way you are today.

First, be clear about what you want to do (page 406). For example, if you want to be a decisive person, see yourself as decisive in your creative imagination. *Thankfully see the goal as already achieved.* Another example: if you want to be a slim person, you will be slim when you completely feel that is whom you are. You will automatically live the life that creates such a body.

Sometimes however, you may do all the above, but continually sabotage yourself or find that your goals are not being realised. Your subconscious behaviours may not always support the goals of your conscious mind.

If you do not feel at the deepest level that your goals are aligned with whom you are, then you will need to re-program your subconscious. Dr Bruce Lipton¹²⁹ describes how various energy psychology techniques can change lifetime limitations within minutes. These techniques include kinesiology, left / right brain integration, and EFT / TFT. He uses Psych-K™, though there are many other similar techniques around. Ancient techniques include meditation, spinning, drumming and sound, sweatlodges, immersion and change-of-life or coming-of-age rituals and quests. Ensure you feel comfortable with the integrity of the practitioner.

One of the results of meditating (page 357) is being able to watch yourself. More and more you will become aware of your thoughts and

emotions, and how your ego rules your life. Notice how often you think in negative terms – criticising and judging yourself and others, feeling weak, inferior, sick, hurt, insulted, aggrieved and a raft of other negative sentiments. While your stated goals may be health, wealth and happiness, do you spend most of the time focusing on your aching leg, rude boss / children / neighbours, unpaid bills, excess weight and unpleasant weather?

Catch yourself in these situations, and turn what you are saying into positive statements. Start by congratulating yourself for noticing your negative thoughts – that is a clear sign of healing and growth. Align your thinking with the goals that you have written down. Even in a situation of conflict, pain or other difficulty, hold your goals in mind, gratefully and joyfully.

Notice if the words that you speak are positive, healthy and constructive, or whether you are sabotaging yourself. Take total responsibility for your thoughts – you are the *only* person running your mind and what your mouth says.

We create that to which we give our attention. You can focus your attention on the best in life, surround yourself with the best, and cause that to become your reality. Alternatively, if you allow your mind to dwell on the inferior, the miserly or the squalid, then that becomes your reality.

Do you like the way you look, feel and smell? Do you feel good about where you live, the kind of work you do, and how you express yourself through your dress, surroundings and possessions? Do you live in rooms covered with dirty clothes, musty linen, dust and papers? Is there a pile of dirty plates waiting in the sink? Is anything broken, needing repair or replacement? Is the food in your refrigerator old? How can you be bursting with vitality whilst living in such an environment? Energise the look, feel and effectiveness of your home – to reflect you.

High self-esteem produces high energy, which in turn attracts more success, fun and prosperity in an upward circle. Having high self-esteem is not being egotistical. It is an essential part of being a loving, effective,

successful person. Egotism, in contrast, is trying to prove you are all those things when you are not.

Our society regards ageing and degeneration as normal. Insurance companies, hospitals, retirement homes and funeral parlours expect to handle people's declining bodies. Even your doctor may brush away your lack of energy, and aches and pains as an inevitable consequence of advancing years. Society and everyone around you fully expect you to look and feel worse each year. Youngsters in their teens and twenties, according to the Western society mass consciousness around us, are in their prime. People in their 30s should be suffering their first ageing and degeneration, according to this thinking. People in their 40s are regarded as middle-aged. People in their 50s and 60s retire, an official stamp that they are past it, no longer contributing to society, and are now a burden. Most people regard old age as a time of inactivity, triviality, and a point beyond which you no longer need to grow, change, learn or take risks.

If you embrace the thoughts, attitudes and mannerisms that society expects of you, you will bring on this ageing. Do you conform to what is expected of your age group? Do you play the sports, listen to the music, study, and have interests, hobbies and recreations appropriate for your age? How do you dress? How is your posture? Do you have a youthful voice? Are you living the life that you love, or living the life that people of your age are expected to live?

An aged person's sick, feeble, degenerate body is a mirror of his or her mind. The negative thoughts in such a person are the cause of their ageing. If this degeneration is your deepest belief, then that is what will happen to you. Are you bent over, old and stooped? Straighten your back, stand firmly on the ground, and hold your head high. Do you walk with small slow steps, with little purpose in your movement? Walk as if you are already strong and youthful, and know where you are going. Are you rigid in your thinking, with firm views on politics, society, money and the way things should be? Or are you open to changing views which you may have held for many years? Are you able to accept people and things the way they are, without condemning or criticising them? Are you learning new things every day?

Many people throughout history have lived well beyond a century while retaining youthful looks, perfect health and all their faculties. If you want this kind of life, then first accept it and picture it in your mind as being you. If it seems an impossible dream, it will remain just that. Once your mind accepts with grateful and joyful certainty that this is who you are, then it will happen.

Children have excellent imaginations, unfettered by years of restrictions placed by society and other (sometimes well-meaning) people. A good imagination is the key to all learning and problem solving, and is essential for a sense of humour. The better your imagination, the more real are the pictures that you form in your mind.

The use it or lose it principle applies just as much to your mental and spiritual facilities as it does to the rest of your body. Do crossword puzzles, play chess, visit places you have never been to, connect with new people, play with children, take up dancing and art and music or the study of small insects. Enjoy humour, be flexible, opening your life to change and the unexpected. Act more like a child, growing, learning and wondering. Grow youthful.

Remember that your thoughts are not a substitute for action. You still need to be alert, seize opportunities, take action, and persevere.

BRAIN PLASTICITY

Neuroplasticity books have recently become best-sellers^{142,143}. They maintain that how we use our brains can change their structure and function, even into old age.

Typically, we learn the most as infants and children. Young children come into a world where everything is completely new. Their brains are growing and wiring quickly, because they have to – there is a lot to learn and it is all completely new. Language, social skills, everything in their environment – food, clothes, home, dangers and so on are all new.

Teenagers are still learning, but at a reduced rate. By then they have good language, social and physical skills. Their learning is a more detailed understanding of familiar topics – improving and expanding on things they already know.

Most middle-aged people are learning very little that is novel and new. Instead, they are using the skills they already have. They don't even have to remember much – everything is written down. Their learning and remembering skills decline, because those parts of their brains are seldom used. There are measurable declines in physical brain structure devoted to learning new skills, and to memory.

If this lack of brain-use continues into old age, it results in a debilitating decline in all brain functions, particularly the ability to learn new skills, and memory.

A study¹⁹⁰ of men and women over the age of 70 showed that a sense of curiosity was the most significant determinant of survival, irrespective of diet and lifestyle. Being genuinely fascinated with new things is a key to healthy old age, according to another study.¹⁹¹

If you use your brain in new and different ways such as learning a new language, dance, game, or even visiting a new place or meeting new and different people, this causes new neural connections in your brain. Often when we are learning a new language or skill at first there is some fast improvement, then we reach a plateau where we seem to have no improvement at all. Then after a while, we suddenly make a great leap. That is because it takes time for these neural connections to consolidate themselves, but once they do we can move onto the next level. Most of this consolidation takes place during nights of good sleep. If you stop practising a skill these connections will weaken, (the "use it or lose it" rule of plasticity.)

The same applies to memory. The more you practice using your memory, the better it becomes. If you tend to:

- skim over what you are reading

- don't really pay close attention to what you are doing most of the day
- don't bother to remember names of people and places
- rely heavily on written lists and instructions

- then make a special effort to use your memory in other areas every day. Have fun trying to remember shopping lists, directions, names of people, movies, conversations, and other components of your life. Tony Buzzan has written an excellent book with such brain exercises.¹⁴⁷

If you cannot remember something, do NOT spend the next five minutes wrestling with trying to remember it. You are trying to re-wire your brain to recall things easily, rather than re-wire it for frustrated forgetfulness! When you do remember something congratulate yourself; when you cannot remember something then look it up, ask, cheat or drop it after a minute or two.

This boils down to paying attention to the people, surroundings and situations in your life. When having a conversation, listen carefully. Brain maintenance is about continual challenge, continual learning, and going through life with a focused clarity.

ATTITUDE

YOUR ATTITUDE MATTERS

Your attitude to life is possibly the most important determinant of your health and longevity. How you think about and see yourself affects every aspect of your being – not just your health, but also your achievements, relationships, wealth, abilities and even your character. At work and home, if you feel valued, loved and appreciated, that you belong to a worthwhile group or organisation, and that you are working toward a higher goal, this will add immeasurably to your sense of satisfaction and wellbeing. If you are thankful rather than resentful

towards life, and accepting rather than controlling, you will have a profound effect on your health, longevity, and even your bank balance!

Your attitude is entirely up to you. You can choose which tracks you want to run in your head. You decide whether to be resentful, angry or sad day after day, or whether you will let it go and get on with your life.

Your past or the world around you is not the cause of your attitude to life. You can choose to blame the age at which you were potty-trained or some other story for your behaviour today, or drop it completely.

When you see yourself as valuable, loveable, and connected to everything and everyone around you, your energy and immunity tend to remain high. The grateful feeling that you do make a difference in this world and in people's lives is essential to your health and wellbeing. A sense of being able to influence events around you is particularly important.

In the USA, 26% of adults have had a mental illness in the past 12 months – the highest level in the world, according to a survey by the WHO.¹⁷² These mental illnesses included anxiety, depression, mood and impulse control disorders, and addictions. In Australia, Canada and the UK, the rate is 20%. Among children, severe depression is experienced by between 10% and 25% of those between the ages of 5 and 16 in the UK.

¹⁷¹ In the USA, 6% suffer from ADHD.¹⁷¹

The cause of this epidemic? According to Wilkinson and Pickett,¹⁷¹ it is primarily the mental stress of trying to live to unrealistic standards. The media and other's expectations and standards have influenced many of those suffering mental illness. They feel they don't look good in the eyes of others, that they have less money, possessions or status than others, or that they are insignificant and alone. In contrast, healthy people can look after themselves, see themselves as valuable, and judge themselves by realistic standards.

A feeling of loneliness can lead to a significantly higher risk of dementia, and numerous other ailments in old age.^{27,171,247} Close friends are vital. It is also important that you feel you have people in your life who value you and what you do. These people can be your family, friends, neighbours,

customers or business associates. A pet can also fulfil this role – numerous studies have shown that pet owners are more relaxed and live longer. Pets enthusiastically, gratefully and unconditionally appreciate their owners.

Your work should connect you with other people. If you see your colleagues as competitors, your workplace cannot be a joyful place. In the happiest workplaces, everyone has an explicit invitation to work together cooperatively, and enjoy social, as well as work-based relationships with each other.¹⁷¹

David Guttman of the University of Michigan maintains that a sense of “active mastery” is the state most clearly associated with longevity. This means having freedom and choices within your own life and circumstances. It also means having a core belief or grand purpose for your life. As a master, you are too busy, too enthused and too enchanted with your tasks, insights, realisations, developing new skills and with reaching your full potential, to give up. You are persistent. You are prepared to defy social expectations and convention. You relinquish your need for approval from others, knowing in your heart that you are doing exactly what you need to be doing.

The irony is that as well as living the longest and being the healthiest, these people are also the most successful in life. They have too many exciting, meaningful things on their plates to sit and vegetate, surrender, get sick and die.

BEING CONSCIENTIOUS

One study¹³³ found that high achievers have the longest lives. The important traits they had were:

- ambition - they see the big picture, have some goals, and make them happen.
- resourcefulness – they are creative, make choices, take risks, and again, make things happen.
- social skills – confidence, which gives them the ability to attract a positive partner, friends, and connections.

- they are hard working.

Such people are not stuck in a rut. They are able to create meaningful and satisfying lives.

Research¹⁵⁷ shows that people with a conscientious attitude have the longest lives. The effect of being a conscientious high achiever even exceeds the beneficial effects of high socioeconomic status and intelligence. The most important traits of those with the longest lives were that they were hard working, ambitious, resourceful and confident. Diligent, industrious and emotionally stable people live up to four years longer than those who are slapdash and complacent, according to a study¹³³ of 8,900 people.

Those who are conscientious tend to protect their health, and are less likely to engage in unnecessarily harmful or risky activities. They tend not to smoke, drink to excess, abuse drugs, drive recklessly or engage in promiscuous sex, for example. They have lifestyles that are more stable and less stressful. Conscientious people are not careless or sloppy. Instead, their integrity and discipline leads to more successful careers, relationships, and ways of living.

“Millions long for immortality who do not know what to do with themselves on a rainy Sunday afternoon.” Susan Ertz

GRATITUDE

The closer you are to the source of all power, the more power and faith you will have in your life. God, as used in this section, is the God within you, your truth, higher self, love and universal connection.

Gratitude means relating to God in a harmonious way. It means singing the name of God on a daily basis, and giving thanks for all that you have and who you are today. If there is one attitude that is required for a relationship with God, it is gratitude. Gratitude connects you with the source from which all health, growth and abundance comes.

God can, and does give you everything that you desire. But remember that what you put out is reflected back to you.

A competitive attitude is contrary to a grateful one. If you feel that you have to elbow your way to the front of the queue to get what you want in life, in the end you will get the least. Trust that the universe is big enough, and that God is powerful enough to provide all you could ever want, and more. Sure, you have to know what you want, ask for what you want, be willing to accept what you want, and get off your butt to create it, but there is no need to trample over your fellow human beings in the process.

If you are grateful, you will live closer to God than when you withhold or forget to give thankful acknowledgement. If you feel resentful that life has given you a raw deal, or that you have been treated unfairly, or short-changed, then how can you possibly have a unity of mind with God?

Complaint is the opposite of gratitude.

If you are grateful for and accepting of all that life gives you, it is impossible to hold negative emotions such as resentment, neediness, anger and shame at the same time.

If you are grateful, you will naturally focus your mind and its power on the best in life, and draw these things to you. It is impossible to be grateful, and miserly, squalid, mean or mediocre at the same time. Without gratitude, you will soon become dissatisfied with your life, even if you are happy with it now.

Without gratitude, your attention is drawn to what you do not want, or dislike. As you focus your attention on these things, the power of your mind will draw them to you. Even if you arrange your life to do everything else correctly, your miserly, resentful or ungrateful attitude to God will keep you in poverty. After receiving one gift from God, you prevent the receipt of more by failing to give thanks.

Are you grateful to your body for being your temple for all your life? Have you praised it, thanked it for housing you, and told it how beautiful it is? Look at your face, close up, in a mirror. Look at your whole body standing naked, in front of a mirror. Then notice what your thoughts are. Do you

focus on the wrinkles, the fat, the blemishes and distortions? Please go and spend two minutes doing this exercise – it is the only way to get it. How can you bring out the best in your body by criticising it and being resentful toward it? Your body will thrive on genuine praise, love, and thanks, just like any other being.

Gratitude is an excellent object on which to meditate. Such meditation will bring home the truth of the connection between your thanks and the flow of health, growth and abundance in your life.

Here is an email written by Brad Blanton's ⁹² brother in law and friend Jack Stork:

"Hey Y'all,

Getting old is not really all that bad you know. Instead of racing around here in the morning trying to make it on time to a job that I really do not want to go to, I take my time. Like an old dog, I wake every four hours or so and usually pry myself out of bed around 5: A.M. This time of year it is very dark then, the thermostat has been turned down to 60 degrees during the night and the transition from warm bed to chilly house will spur me to step out right spry.

I put the tea kettle on the fire, dress as hurriedly as an old man who cannot reach his shoe laces can. I fetch the paper out at the end of the driveway, take notice of the stars, greet the dogs and breathe the cold air as deeply as I can. By the time I get back, the tea kettle is hissing steam and I make myself a cup of coffee and take it to my table. The furnace is hard at work but it is still a little chilly in here. I wrap both hands around the hot coffee cup and envy no man.

I like sunrises. I have been present at over 25,000 of them in my lifetime, riding this old ball of earth out of the shadow into the light, and I still get a thrill from them. I sit here on my hill, looking out over a wide valley, town lights twinkling below and suddenly, the mountain across the valley stands out black against the faint gray of the sky. Then the clouds begin to show rich colour and I am filled with gratitude.

I like the feeling of gratitude about as well as any, more than most. Gratitude seeps deep into my bones and makes me feel prosperous all day. Gratitude is the only prayer that I offer. I ask for nothing more than I have and I am most grateful for you my friends.

Jack."

ACCEPTANCE

How you handle the stressful or negative events in your life is critical to your health and longevity. Ideally, you choose to accept the uncertainty and unfairness of life, and adapt to events as they unfold around you. This is an attitude of going with life's flow, rather than fighting against it.

You do not have a monopoly on the truth. In a situation of stress or conflict your viewpoint is limited. You do not have a patent on being right or accurately assessing any situation.

For example, let us say you have organised to go out to dinner with a friend. You are looking forward to this date, which took several weeks to set up. The day before your meeting, she phoned and left a terse message on your answering machine saying, "I'm sorry but I can't make our dinner tomorrow. I'll phone you next week."

Your immediate reaction might be one of feeling rejected, abandoned or slighted. You may feel angry or hurt that she does not consider your dinner engagement as important as you do. Your mind may conjure up all sorts of possibilities – she does not like you, she thinks you are trivial or boring or she had a better offer from someone else.

Notice that none of these reactions is necessarily the truth. She may have been immensely looking forward to your meeting, and holds you in high esteem. Or maybe not. It is only when you speak to her that you will discover the facts of the situation.

The most successful and effective people have a relatively high degree of control of their lives.¹⁰² However, they are not control freaks who want both the major events in their lives and the minute-to-minute details to go exactly their way. Rather, they have dreams and goals, and take

appropriate action to create them. When things don't turn out the way they first expected, they adapt and learn. They give 100% and then accept what happens. They make choices, but are not strongly attached to the outcomes of their choices. *The success or failure of a task is not a reflection of their success or failure as a human being.*

Less successful and effective people try to remain in control of the events around them by changing them from what they really are, or denying that they are happening. This is an attitude of resistance, contradiction, lying and going against the flow of life. Physically, it is exhausting, and emotionally it leads to false expectations, frustration, resentment and unfulfilled desires. If they are successful with a planned task, they feel it increases their worth as a human being. Conversely, failing to achieve a goal hurts them to their core.

The unhealthy, controlling approach is to insist on being right. These people resist events that are not going their way, and spend an enormous amount of energy justifying themselves. *What they react to or resist most strongly is usually a reflection of what they are denying the most about themselves.* Controllers lack the humility and flexibility required to adapt, grow and flourish in an ever-changing world.

Shed the burden of judging others, and comparing yourself with them. Every time, you either feel inferior and resentful, or superior and arrogant. Either way, you waste an enormous amount of energy, and develop negative traits. Just accept that people are as they are, and when you get to know them and love them as imperfect fellow humans, you will grow in many ways.

Of course, it is not pleasant losing control of important aspects of your life. This will inevitably happen – you can expect the unexpected. There are healthy ways and unhealthy ways to deal with stress. The most widely used stress buster is an array of drugs, in the form of tranquilisers, sleeping pills, recreational drugs, alcohol and nicotine. Other examples of counterproductive stress relief include promiscuous sex, television, overeating and computer games.

You will be able to cope in a healthy way if you are secure in yourself. This security comes from knowing that you are loveable, unique, valuable and capable. You are honest enough with yourself to admit that the truth is what you can see and hear, rather than a more elaborate story running in your mind. You also have the humility to admit when you are genuinely out of your depth, and know your limits. If your approach to a situation is not working, then have faith that there is more to learn. Ask for help, or trust that the passage of time will reveal a solution.

Are you stuck, feeling fearful or trapped in an unhappy situation? Is there something that you should be doing, but are not? Get up and do it now – any action is better than no action. If it is a mistake, at least you will soon learn a lesson. Alternatively, you can consciously choose to accept completely the situation, or your laziness, passivity and lack of action. With your total acceptance, you will stop beating yourself up, and there will be neither resistance nor negative emotion. You are free to enjoy each moment.

GENEROSITY

First, *be generous to yourself*. It is a mark of a successful life to have an abundance to give - to yourself, your friends, family, and others whom you meet every day.

Do you feel deserving of love, health, good food, friends, success, money, fun, travel, a lovely home, objects of art and beauty, beautiful clothes, work you are passionate about, an attractive body, a delicious lover, regular massages and other forms of bodywork, free time, relaxation or whatever it is that you yearn for?

Alternatively, do you limit yourself, self-sabotage your efforts, or feel undeserving? You can't be generous if you feel mean to yourself.

Generosity means giving with your whole being. It means coming out from behind that mask, and saying Yes to yourself and other people. Yes with your resources, time and emotions. A loving smile, an appropriate touch or hug, a meal cooked with love, a good belly laugh, and a sincere desire to listen or give money when appropriate are all examples of a generous attitude to life. Of course, you give without thought of return

(although it is interesting how often something comes back in unexpected ways).

Give so that others may grow, heal, advance and help themselves. Generosity means wishing for others also to have the good things you would like for yourself.

The universe has abundance beyond your imagination. Giving with an open heart connects you with this massive power.

Generosity does not mean giving away your power, your sense of self, or giving anything to the point of pain or resentment. Numerous studies show that one of the most powerful predictors of disease is having a compulsive regard for the needs of others whilst ignoring or suppressing your own needs. Parents who feel they have sacrificed too much for their children, workers who can't stop working even when seriously ill, carers who put aside their own needs for a family member – these people often develop their own diseases.

Helping your friends and loved ones can be one of the greatest sources of happiness. It is a blessing to have sufficient wealth to be able to give away many material gifts, but even without wealth, your time, energy and friendship are treasured.

LOVE & CONNECTION

A lifetime without love is of no account,

Love is the water of life,

Drink it down with heart and soul! - Rumi

Love comes from accepting yourself, and life, and other people, without judging others for their beliefs, wanting to change them, prove anything to them, or wanting anything whatsoever in return. It comes from life itself, just because you and others are alive.

The essence of love is not a feeling or emotion – it is a state of being. Love expresses itself from a state of awareness, living in the moment, being present and connected with all. Love starts with self-value and self-acceptance, and then overflows to all around you. Ultimately, all love comes from within – you cannot earn it, you can only give it and receive it.

Love has great healing powers. It is a potent prescription for health and longevity. Lack of love for yourself and others gives rise to negative thoughts and emotions, stress, ageing and illness.

Disconnection. Let me describe a friend (we will call him Thomas) who suffered from a disease that is becoming endemic in the Western world. Initially Thomas seems engaging and pleasant, but perhaps a little aloof. He works as a computer consultant, mostly from home, and has been quite successful. As you get to know him, you may sense an underlying sadness and fear. He suffers from a long-term nagging hip pain, and a lack of energy – neither of which any doctor or health practitioner has helped with over the years. He has spent thousands of dollars on acupuncture, several forms of bodywork, and other holistic healing, and has even tried yoga - all to no avail. However, he looks in reasonably good shape. The lack of energy and hip pain are now affecting his work and social life. He tends to stay at home in the evenings, watching television or sitting at his computer. He has not had a relationship with a woman for several years, has no children, no pets, and few personal responsibilities. The people in his life are acquaintances rather than close friends.

Thomas is not very aware of his feelings, and is not comfortable discussing them. When I asked him how he felt about his situation, he was unable to talk at a personal level about his feelings of frustration or sadness, but instead reverted to an intellectual commentary on his situation.

Thomas's healing started when a counsellor he knew personally, spent some time with him. She pointed out that he had no meaningful connections in his life – no real friends, no mate, no lover, no pets and no work about which he was passionate. He was not totally committed to or in love with anything or anyone, including himself.

She explained that people are naturally social, gregarious, communal animals. Under ideal conditions, we live in families, tribes and villages. However, modern civilised society breaks those connections. From a young age, we are encouraged to go into our heads and be intellectual, reading, thinking, observing and acting while disconnected from others. In our modern computer based, time critical world, it is possible to earn a good income and live comfortably without needing to make any close connections or strong commitments.

Thomas's life lacked meaning and worth, and his body reflected that mental, emotional and spiritual emptiness. His healing began when his attention moved from himself to others. He recognised that other people were meaningful and worthy. People had always been around him, but for the first time he started to connect. He started to care for, listen to, spend time with and enjoy others.

The change in Thomas has been dramatic. He now enjoys a circle of friends and has a woman in his life. His self-confidence and energy have rocketed, and apparently his hip has healed.

Life becomes richer when you participate in a nurturing, supportive community.

Connection. There is plenty of research confirming that connection to others and to a higher cause is the most important determinant of your health and longevity. Feeling disconnected brings on a deep and ongoing feeling of stress that is ruinous for your health. Our need to belong and the quality of our social bonds are fundamental to our survival.

Those who feel lonely and socially isolated are two to three times more likely to die from heart disease and other causes than people who feel connected to others. ^{178,179,247}

A strong community and social fabric is the key factor affecting its member's health, protecting them from stress and risk factors such as a Western style diet, migration and dislocation, poverty and even high alcohol consumption. An interesting study of the native population of the Solomon Islands found that they had virtually no heart disease even after

they adopted a Western diet and religious practices. The study concluded that it was because they maintained strong social ties and family roles.¹⁸⁰

Another study showed that isolation (from our own feelings, from other people, and from a higher power) is a better predictor of heart attacks than all the other common risk factors combined (smoking, obesity, lack of exercise etc.)¹⁸¹

A meta study¹⁸² (pooling the results of 148 other studies) found that relationships, good or bad, increased the participants odds of survival by 50% over seven years. Our need for connection is so strong that even bad connections are better than isolation!

A study showed that the frequency with which participants referred to themselves in ordinary conversation (I, me, my, mine) was the best predictor of heart attack death – better than blood pressure and other measures.¹⁸³

When people lose their jobs or suffer financial hard times, good social connection and support means that they suffer from virtually no depression about their financial circumstances¹⁸⁴ and enjoy protection from heart disease and other illnesses.¹⁸⁵

The best predictor of your health is the number of social groups to which you belong, and the strength of your relationships within those groups.
^{186, 187, 188, 189}

Love finds its' most natural and spontaneous expression in giving. Look for the love that you already have in your life – the friends, family and others to whom you are already willingly giving. Seek opportunities to give more – a sincere compliment, or even just an acknowledgement that someone is there, seen, appreciated, and valued. People like to hear that they are loved and cherished. Take advantage of opportunities to be affectionate (whilst also being considerate, appropriate and not intruding or making the other person uncomfortable). Take the initiative; give those around you permission to break down the barriers, regardless of what you may get in return.

Love is allowing your loved ones to do as they want, without the need that they satisfy you.

Love is harmonious existence, without attachments that imply wants, needs, expectations or ulterior motives. If you love someone because you want to be loved in return, you will never be committed and sure. Instead, it will be an exchange, and your concern will turn to who is getting the best deal.

Most of us need periods of solitude in our lives, in addition to connection. It comes back to the Taoist precept of balance. If you feel overwhelmed or drained by the needs of others, then take time out – for their health, as well as your own.

Learn to love your body. Revere your body as a part of God. Has your love developed it into a healthy, vibrant, and attractive body? Look at your nude body in a full-length mirror. What are your feelings? Do you love it and accept it? Or do you criticise it, judge it and compare it with what it has been, or with other people? How can your body blossom and grow if you shower it with negative thoughts?

You can learn to accept your body, and love it, in meditation. Mantras to use include:

I thank my beautiful body for serving me.

I love my body / a particular part of my body.

My body is a wondrous gift.

My body is a holy temple.

I am so thankful for my body.

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THE AUTHOR

For most of my life, I have tried to take good care of my body. Previously, I exercised hard almost every day, had a diet based on muesli and soymilk, and avoided animal fats as if they would kill me. I was passionately interested in health and read every article I could lay my hands on.

I assumed that doctors, dentists, medical associations and the government regulators were the best source of health information and support. Who could give better advice on how to stay young and healthy? Who else would give accurate, unbiased advice on diet, medicine, environmental dangers and the optimal lifestyle?

By the time I reached my late-forties, I had to capitulate that their advice was not working. I looked and felt at least ten years older than my real age. My body did not have the health and energy that I knew was possible. Several ailments had bugged me for years and they were getting worse, not better. I felt stressed and dissatisfied. My digestion was poor, I was balding, my skin was terrible, and there were a few niggling aches and pains that were gradually increasing. Different doctors had little to say that helped. All they had to offer was ... drugs. It was clear that if I wanted genuinely good health – with sufficient time to discover the root causes of my ailments, unbiased practical advice, and remedies that really work - then I had to put a lot of time and effort into investigating everything myself.

So began my journey studying different remedies, diets and lifestyles. I have spent the last fifteen years researching what really works in health and longevity. I found many people who looked more than a decade younger than they actually were. As I got to know them, I realised they weren't even trying to stay young and healthy! They were playful and had fun. They exercised, but less than me. They ate foods that were delicious and enjoyable. I was shocked to discover that many of the foods they regularly used were the same ones I had avoided for so many years.

I went to India and lived in an ashram for a couple of months. I volunteered to work as one of the lunchtime chefs, and prepared hundreds of meals every morning. This was the first time I had worked at such a scale - hot, sweaty, hard work. It confirmed my love of food, especially food produced with love and integrity. It was also an opportunity to meditate for hours each day, and meet with people who were playful, happy and healthy.

I travelled to and studied areas of the world where people are traditionally long-lived, and also places where the health of the population is deteriorating rapidly. I tried many different diets and health approaches over the years, including vegetarian, vegan, ayurvedic, Taoist, raw food, macrobiotic, acid-alkaline, blood-type, paleolithic, Mediterranean, traditional, and the diets in numerous popular books. I interviewed hundreds of people to get their personal experience and assess how they are ageing. I learned everything I could about nutrition, biochemistry, healing with food, psychology, energy work, the mind-body links, consciousness research and different types of meditation. I researched (and used myself) Tai Chi, yoga, Pilates, breath work, Taoist exercises, many different meditations, various modes of bodywork, and heat and cold treatments.

A lot of the health information we read is simply not true. It is carefully crafted to serve the industries/associations that sponsor these articles. I was dismayed to discover that so much of the information on the web, in popular books, and even in published scientific research is just lies and twisting of the facts. The food, [pharmaceutical](#), health products industries and associations of health professionals serve their own financial interests.

The rewards from my work are obvious. I am now years younger than the man who started this quest, and many people remark that I have an amazing vitality and a clear energy. In *Grow Youthful* I share my discoveries with you, and I am confident that this information can literally transform your health and your life.

David Niven Miller, MA. Perth, Australia, 2014.

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